1-1-1971

Singapore: International trade and economic growth.

Ju-Kuai Foo
University of Windsor

SINGAPORE: INTERNATIONAL TRADE AND ECONOMIC GROWTH

Submitted to the Department of Economics of the University of Windsor in partial fulfillment of the requirements for the degree of Master of Arts.

by

Foo Ju-Kuai, B.Comm.

1971

AAZ 6724

Approved by:

E. M. Hollenbeck

David O. D. Hunyet

350154

ABSTRACT

International trade, consisting chiefly of entrepot trade, is Singapore's main economic activity and is, therefore, her major source of prosperity. There has been a tendency towards stagnation in international trade for the period 1957-68. The main causes of this stagnation are: (i) the uncertain demand conditions for primary products and the prolonged decline in the price of natural rubber; (ii) the emphasis on direct trade policy of the neighbouring countries; (iii) the lack of structural diversification in the export sector, and (iv) the lack of promotional incentives and direct government support.

Recent progress in the manufacturing sector has been substantial, and it was responsible for most of the structural change in the period under review. However, the scope of development of this sector has been seriously limited by the size of the domestic market. Therefore, export promotion must be emphasized, to overcome the smallness of the domestic market and the discouraging growth of the trade sector. A shift of industrial policy from the current "inward looking" stance to an "outward looking" approach is essential in achieving this aim. In addition, the process and pattern of industrial production must be made more flexible so that Singapore's products can successfully compete abroad, increasing foreign exchange earnings and permitting a higher rate of economic growth.

ACKNOWLEDGEMENTS

I am very grateful to Professor Z.M. Fallenbuchl, my thesis supervisor, for many valuable discussions which finally shaped the main ideas of this thesis and for his helpful suggestions and comments which greatly improved this paper. To Professor D.F. Barnett, who made constructive comments and taught me very patiently during the period of my study at the University of Windsor, I would also like to extend my gratitude. But mention should be made, in particular, of Professor A.E. Kovacs who is a gracious and sincere teacher, in addition to being a good advisor. For her guidance and assistance, I am deeply indebted.

I would also like to thank Professors W.J. Gillen, who in many ways helped sharpen my thinking and D. Wurfel for his comments. I must express my sincere thanks to Mr. J.David Oulton for his valuable assistance; and to the Staff of the Interlibrary Loan Department of the University of Windsor, for making important materials available.

Last but not least, I would like to express my gratitude to The Lee Foundation, Singapore, for generous financial assistance.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF CHARTS

CHAPTER I

INTRODUCTION

The purpose of this study is to analyse the main factors responsible for the structural change and growth in the economy of Singapore during the period 1957-68 and to assess the stimulus which international trade can be expected to provide to economic growth in the future.

In order to acquaint the readers with a clear picture of the non-economic factors which are believed to have a certain degree of influence, either directly or indirectly, on the change in economic structure and growth, it is necessary, first of all, to introduce briefly in this chapter the geographical conditions, historical background, political development and the general economic structure of Singapore.

1. The Geographical Conditions

The Republic of Singapore, consisting of Singapore island itself and many tiny islands, which altogether constitute approximately a total area of 225 square miles, is situated at the southern tip of the Malaya Peninsula. The territory of Singapore lies, from south to north, approximately

between latitude 1° to 1°30'N and from east to west, between longitude 103°35' to 104°05'E. The island of Singapore is joined to the Federation of Malaya by a causeway carrying on it a road and a railway.

Singapore's location is of economic and strategic importance. The Republic of Singapore is encompassed by the territories of Malaysia and Indonesia. Because of this central position, Singapore has been engaged intensively in entrepot trade, and it became the leading commercial centre of this region within a very short period of time after its foundation.

The climate of the island is equatorial and the temperature is uniform throughout the year, ranging from 75° to 90°F, with an annual mean of 80°F. The humidity is high and the rainfall abundant, with an average of about 96 inches annually.[1]

In terms of either employment or contribution to national product, agriculture is relatively unimportant as compared with international trade and manufacturing industries. Agricultural land is very scarce; about 9 percent of the island is covered with tidal swamps and the remaining 91 percent is almost entirely hilly terrain. In some areas, swampy lands are used either in fish and prawn breeding, pig rearing, or have been reclaimed for housing and industrial development.

---

[1] Monthly Digest of Statistics, February, 1970, Department of Statistics, Singapore.

In more recent years, few vast reclamation projects have been undertaken in order to expend land for these purposes.

Due to the limited arable land, Singapore has to rely heavily on imports of foodstuffs from the adjacent countries. It is likely that with population increases and industrial development, more arable land will be converted into housing and industrial use. Thus, reliance on imported foodstuffs will be accentuated further, and for these reasons, it is the policy of the Singapore government to see that all land is as intensively utilized as possible.

The island of Singapore has few, if any, natural resources. Rivers in the island, excepting the Singapore River, have no economic significance. The prosperity of Singapore depends mainly on the entrepot trade: processing, grading, packing, sorting and transshipping the tropical produce from the surrounding regions.

2. Historical Background and Political Development

It is believed that Singapore was discovered by the Chinese in 231 A.D., with its name recorded as "Pu-Luo-Chung" which is corresponding to "Pulua Ujong" in Malay.[2] Chinese contact with the Southeast Asian region was early; (as early as Han Dynasty, about 206 B.C.)[3] but restricted to trade.

---

[2] Singapore Yearbook, 1969, chapter 2.

[3] N.J. Ryan, The Making of Modern Malaysia (Kuala Lumpur: Oxford University Press, 1967) p 5.

Indian contact with the region was early also and although mainly confined to trade, it had a more significant influence on the culture, custom and religion of the region. The British government became interested in the Malayan Archipelago when its trade with China became important. To protect its merchant and economic interest in the region from the competition and attack of the Dutch, it became necessary for the British government to establish a military base and a port where ships could be refilled when trading with China. Singapore met these requirements.

Singapore, which had been a British colony for about 140 years, merged with the Federation of Malaya to form a new constituent state of Malaysia on August 23rd 1963. Prior to the merger, Singapore had gained internal self-government in 1959, although the British government retained the responsibilities for foreign affairs and defence. On August 9th 1965, Singapore separated from Malaysia by mutual agreement and became a republic with full sovereignty over its territory.

The first election in Singapore was held in 1948. The franchise was confined to British subjects only. The second colonial type of election was held in 1951, with the franchise extended. Due to a poor response on the part of the electorate and the need for the legislative council to carry out greater responsibility and wider functions, a new

constitution was adopted in the recommendation of the Rendel Commission, to permit a majority of members of the council to be elected and a Cabinet to be formed. This change has considerable constitutional significance for it laid down the basic pattern and structure of the legislature of Singapore. In 1957, an agreement was reached in London to provide a constitution of Singapore with internal self-government and the creation of Singapore citizenship.

The constitution and the functions of the legislature remain largely unchanged since 1957. Under the constitution, the President is the head of the State, to be elected by Parliament for a term of four years. The Prime Minister is the head of the Cabinet and he must command the confidence of the majority of the members of Parliament, and is appointed by the President.

The present government, organized by the People's Action Party, came to power in 1959, and has remained in office with only minor changes since then.

Shortly after the formation of Malaysia, there was a confrontation with Indonesia resulting from political action taken against Malaysia by Indonesia. All trade between Singapore and Indonesia ceased and the loss to Singapore was considerable. Trade between the two countries was restored when the present government of Indonesia came to power. However, the volume of trade is still far below the pre-confrontation level.

3. The Expansion of Trade and Population

Within a few years of its foundation, Singapore established close trading relationships with Malaya, Java, Sumatra, Borneo, the Philippines and many other neighbouring countries. In view of the importance of Singapore's entrepot trade, its trading relationships have since been extended to the rest of the world.

The growth of Singapore's trade has been remarkable. In 1822, three years after its foundation, the total volume of trade had exceeded $8.6 million and it reached $13.3 million in the following year,[4] with a growth rate greater than 30 percent per annum. The development of Singapore's economy was further spurred by the inauguration of the Suez Canal in 1870, which shortened the trade distance to the east, and later by the successful transplantation of rubber from Brazil to the Island and the Federation of Malaya. With the introduction of the production and processing (smelting) of tin in 1887, the growth of Singapore's trade was still further accelerated.

The expansion of trade was accompanied by a rapid increase in population. The growth of population was attributed mainly to the influx of a large number of labourers from India and China into the island, and to the Malaya Peninsula, to meet the labour shortage in rubber estates

---

[4] Raffles, "Statement of Services" in Mills, L.A., British Malaya (London: Oxford University Press, 1966)

and in the tin industry, arising from the fast growth of world demand for these products.

In 1819, there were only about 500 inhabitants, mainly fishermen, on the island. Five years later, the number leaped to ten thousand, of which 31 percent were Chinese, 60 percent Malay, 8 percent Indian and 1 percent other races. Today, the composition of the population is as follows: of the two million people, 74 percent are Chinese, 14 percent Malays, 8 percent Indians and 4 percent other races.

The first reliable census was taken in 1871; the result indicating that the population had reached 97 thousand, while the ratio of sex composition remained relatively constant.[5] A monthly quota was imposed on immigration of male labour, while leaving uncontrolled the immigration of female labour, following the passage of the Aliens Ordinance in 1932 in response to repercussions of the great economic depression. The restriction did not, however, bring the fast-growing population under effective control. The influx of population came to a halt only during the Japanese Occupation from 1941 to 1945. According to the 1957 census, the population was growing at the rate of 4.3 percent, which was among the highest in the world.

---

[5] H. Marriott, "Population of the Straits Settlements and Malay Peninsula during the Last Century." Journal of the Straits Branch of the Royal Association Society, December, 1912.

The rapid expansion in population has posed at least three major problems to modern Singapore: (i) the problems of dependency (43 percent of the total population is under 15 years of age according to the 1957 census); (ii) the problem of unemployment and (iii) the increased demand for social services. It is estimated that in the period 1957-60, 43 percent of the total expenditure was allocated annually to social services such as education and health. In addition, 42 percent of the development capital was spent on these purposes under the First Development Plan.[6]

The trend of growth of population has now been checked with the successful implementation of family planning, and the restriction on immigration. The decline in birth-rate has become very evident in recent years. The crude birth-rate declined from 4.1 percent in 1958 to 2.4 percent in 1968[7] and it is expected to fall further.

4. A Multi-racial Society and Educational Policy

Due to its plural characteristics in social structure, racial integration and harmony is of vital importance in the context of building a politically stable and economically sound nation. Thus, four main languages, namely, Malay, Chinese, Tamil and English have been given in the Constitution equal status.

---

[6] First Development Plan (1961-64) and Review of Progress of First Development Plan, Ministry of Finance.

[7] Monthly Digest of Statistics.

The government educational policy is designated to offer a better and free primary education to all children who attain the age for schooling. Expenditures in education continue to rise in absolute terms, accounting for about one-fourth of the total budget in recent years.

Schools in Singapore can be classified according to the medium of instruction, namely Malay, Chinese, Tamil and English schools. Parents are given full right to make their own decision and choice on the type of school to which their children are to be sent for education. In recent years, increasing emphasis has been placed on technical and vocational education in order to keep in line with industrialization policy.

5. Housing and Industrial Development

Two vigorous programmes were undertaken by the present government when it took power in 1959. The housing development programme, aimed at providing sufficient units of accommodations to meet the urgent needs of the people, mostly in the low-income group for housing, and to ease the problems of over-crowded population in the city area, has proved to be highly successful. It is estimated that more than 25 percent of the total population are now living in government low-cost flats. The achievements of the second

programme - industrialization - are notable. A wide range of manufacturing industries has been set up by both domestic and foreign enterprises during the past several years. The progress of industrial development at the present stage is very promising.

In order to accelerate the tempo of industrial development, the Economic Development Board was established in 1961, and is empowered to take full responsibility for, and take part in, all kinds of industrial activities related to industrial promotion. The powers of the Board include acquisition, clearance and reclaimation of lands, provision of industrial sites, financial loans, technical assistance, equal participation in management, basic infrastructure and other services considered by the Board as essential or necessary for promoting industrial development.

With the establishment of the Economic Development Board, the government's activity in this field has been widening, unlike in the past when it was confined only to the maintenance of order, security and basic infrastructure. In 1968, a Development Bank was established, which took over some of the functions formerly performed by the Economic Development Board. The major function of the Bank is to provide loans to industries.

The decision of government to implement an industrialization programme was based mainly on two considerations. First, there has been little expansion in foreign trade, consisting of mainly entrepot trade; and secondly, the problem of unemployment grew more and more acute. To promote industrial development, industrial incentives to existing and new industries are offered, such as, to mention a few, tax holidays, tax exemption on increased income through expansion in productive capacity, free mobility of capital, reduced tax on exports of locally manufactured goods, doubled deduction for taxes on expenses for promotion purposes and exemption of royalties.

When British military bases are cut back in 1971, the unemployment problem will be accentuated. About 10 percent of the labour force are employed in the British bases and most will be out of jobs following the withdrawal. In view of this, immediate action and measures have been taken to alleviate the loss by converting many of these bases and their facilities into civilian use.

For "instant" Singapore, a fame gained from its "instant" in trade, industry and housing development, etc... to maintain a high level of standard of living, it must induce sufficiently large amounts of foreign capital to sup-

plement domestic savings for industrial investment. It is believed that the strong Singapore currency, backed with more than 100 percent foreign reserves, should be able to give the necessary confidence to foreign investors to invest in Singapore.

CHAPTER II

THE DYNAMICS AND THE STRUCTURE OF FOREIGN TRADE

The economies of small nations are generally characterized by (i) high ratio of trade to G.N.P., (ii) high coefficient of concentration of commodities in exports, and (iii) high degree of dependency on international trade in the sense that they rely heavily on foreign markets for exports, and foreign supply to meet their domestic demand since domestic resources are limited.[8] Strictly speaking, Singapore meets only two of these conditions, as will be shown later in this chapter.

The structure of Singapore's trade can be viewed from several different angles, namely the ratio of trade to G.N.P., the composition of trade, the degree of concentration in trade, and the direction of trade. There are many factors which may alter the structure of Singapore's trade, such as changes in foreign demand, government economic policies,

---

[8] See in particular: Albert O. Hirschman, "National Power and the Structure of Foreign Trade, University of California Press, 1945; M. Michaely, Concentration in International Trade, North Holland Publishing Company, 1962; S. Kuznets, "Economic Growth of Small Nations" in Robinson (ed) Economic Consequences of the Size of Nations, New York, 1963; W.G. Demas, The Economics of Development in Small Countries, McGill University Press, 1965

changes in domestic demand and/or production, and shifts in consumers' tastes. In addition, the structure of trade may also be affected by fluctuations in the level of output and the pattern of demand in neighbouring countries.

1. High Ratio of Trade to G.N.P.

As expected, Singapore, as a trade centre and a small country, has a very high ratio of trade to G.N.P. The sharp decline of the trade ratio in recent years was mainly due, first of all, to the prolonged decline in prices of both crude rubber and petroleum products which, in terms of their shares of the total trade, are Singapore's most important export items. Secondly, it is a result of the imposition of a trade embargo by Indonesia at the end of 1963, after which trade between the two countries ceased. Thirdly, G.N.P. was growing relatively faster than the rate of growth of trade. The upward trend of the trade ratio, beginning from 1967, is expected to continue in view of the growing rate of industrial expansion and restoration of trading relationship with Indonesia.

It is not certain whether the ratio of trade to G.N.P. will be able to rise to its previous level. However, it is almost certain that a ratio equivalent to the pre-confrontation figure will not be difficult to attain.

In terms of indices of per capita trade, similar trend movements can be observed which indicate that expansion

of international trade has not even kept pace with population growth.

As a whole, foreign trade was rather sluggish in 1957-68, partly due to the confrontation and partly due to the decline in prices of major export products.

During the period 1957-62, the annual average rate of growth of export was only 0.2 percent, while for import, there was no growth at all. The situation improved greatly for the period 1963-68 as exports and imports grew 3.8 percent and 4.9 percent respectively, despite a continuous decline in the price of crude rubber. It is worth noting that invisible trade seems to have demonstrated a greater rate of growth than merchandise trade. If invisible trade is excluded, the rate of growth of both imports and exports is seen to be much lower. (see Tables 2.1 and 2.2)

The total value of merchandise exports in 1957 was $3,478 million, which remained unsurpassed until 1967. In 1968, the total value of exports leaped to $3,891 million, a 12 percent increase over the preceding year. Total value of imports in 1968 was $5,084 million as compared with $4,062 million in 1957. When invisible trade is taken into account, total value of exports and imports for 1968 amounted to $4,807 million and $5,265 million respectively.

TABLE 2.1

GROWTH OF EXPORTS AND IMPORTS, 1957-68

(MERCHANDISE AND SERVICES)

Year	Export ($M)	Average Rate of Growth	Import ($M)	Average Rate of Growth	Export / G.N.P. (%)	Import / G.N.P. (%)	X+M / G.N.P. (%)
1957	3924		4126		213.7	224.7	438.4
1958	3581		3796		187.5	198.7	386.2
1959	3809		3974		200.8	209.5	410.3
1960	3950	0.2	4147	0	204.5	214.6	419.1
1961	3808		4057		170.7	181.8	352.5
1962	3908		4104		162.1	169.4	331.5
1963	4059		4359		154.6	166.1	320.7
1964	3448		3541		122.7	126.0	248.7
1965	3799	3.8	3900	4.9	123.1	126.4	249.5
1966	4249		4201		120.7	119.3	241.0
1967	4387		4575		120.2	125.4	245.6
1968	4807		5265		125.1	137.0	262.1

Source: From Table 1 in Appendix

TABLE 2.2

EXPORTS AND IMPORTS, 1957-68

(MERCHANDISE)

Year	Export ($M)	Average Rate of Growth	Export G.N.P. (%)	Import ($M)	Average Rate of Growth	Import G.N.P. (%)
1957	3478		189.4	4062		221.2
1958	3140		163.7	3740		195.8
1959	3440		181.3	3908		206.0
1960	3477	0.1	180.0	4078	0	211.1
1961	3309		148.3	3963		177.6
1962	3417		141.0	4036		176.6
1963	3475		149.5	4279		163.0
1964	2772		98.6	3479		123.8
1965	3004		97.3	3807		123.4
1966	3374	2.9	95.8	4066	4.6	115.4
1967	3490		95.6	4407		120.7
1968	3891		101.3	5084		132.3

Source: Yearbook of International Trade Statistics, U.N. (Various issues)

Singapore has been suffering from an unfavourable merchandise trade balance since 1957. The gap between exports and imports of visible trade widens as their rates of growth differ. Only in 1968 did Singapore enjoy a small net surplus in current account. This persistent deficit in trade represents an inflow of capital, but will eventually create undue pressure on the balance of payments unless sufficient ways of financing it are found. (Problems of balance of payments will be discussed in chapter 4).

2. The Composition of Imports

One of the major features of Singapore's foreign trade is instability of the value of both exports and imports, due to fluctuations in the prices of a few primary products, particularly rubber, petroleum and petroleum products.

Imports of manufactured goods classified as materials (SITC commodity division) showed a substantial increase over the period 1957-68. In 1957, it constituted only 12 percent of total imports, but in 1968 its share of total imports rose to nearly 21 percent. The change in the composition of imports is consistent with a policy of industrialization, since industrial growth requires intermediate goods and machinery and equipment which are not all available domestically. The change in the imports of this section can therefore be seen as a response to the rise in domestic demand for industrial prerequisites due to rapid economic expansion.

The total value of imports of crude materials, consisting chiefly of crude rubber, experienced a major decline over this period. The main cause of this drop is first of all the downward movement of the price of rubber. The downward movement of price was more than enough to offset the rising volume of imports. Secondly, the downward trend of imports of crude materials was subsequently reinforced by the confrontation forced by Indonesia, one of the main suppliers of crude rubber. When the price of rubber was at its peak in the period 1959-60, the total value of imports of this section accounted for 39 percent of total imports, or more than $1500 million. In 1968, total value of imports of crude materials dropped to its lowest point, accounted for only 17 percent of the total imports, or less than $600 million. Food has been the second largest section of imports since 1967, constituting 18 percent of the total imports. Other sections in descending importance in terms of percentage of total imports are machinery and transport equipment, miscellaneous manufactured articles, chemicals, miscellaneous transactions, beverages and tobacco, and animal and vegetable oils. (See Tables 2.3 and 2.3A)

Imports of machinery and transport equipment, as has already been noted, increased steadily in this period. In terms of absolute value, it rose from $281 million in 1957 to $747 million in 1968, or from 7 to 15 percent of total imports with rapid industrial expansion; however, the marked increase

TABLE 2.3

VALUE OF IMPORTS BY COMMODITY SECTIONS, 1957-68

($ million c.i.f.)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Food	665.4	710.7	649.9	676.3	726.6	725.3	849.3	705.4	743.3	770.2	811.8	889.2
Beverages & Tobacco	86.0	86.3	70.3	71.1	76.6	70.9	78.7	61.6	70.4	65.1	73.8	95.5
Crude Mats. inedible, excl.fuel	1330.4	1102.0	1534.6	1520.9	1143.3	1099.8	968.1	632.2	702.8	753.4	637.4	594.5
Mineral fuels, Lubricants & rel.materials	782.6	669.8	600.1	591.3	573.8	601.5	585.0	469.7	508.3	620.8	738.8	875.4
Animal & Veg. oils & fats	30.6	30.1	33.3	39.2	35.1	36.7	38.7	37.1	57.4	58.0	64.7	48.5
Chemicals	117.3	110.9	115.0	126.8	154.6	156.4	181.7	169.7	190.0	204.3	236.8	253.7
Manufactured goods by mats.	487.1	494.9	434.6	469.1	557.7	573.1	659.0	555.7	626.0	652.8	797.2	1059.0
Machinery, transport equipment	281.4	255.0	225.1	287.6	375.5	448.2	523.1	494.7	550.1	555.8	579.0	747.3
Miscellaneous manuf.articles	195.3	187.7	172.4	214.5	238.7	246.9	306.6	276.6	279.4	297.2	382.8	406.1
Miscellaneous transactions	86.0	92.7	72.5	80.8	81.5	77.0	89.0	75.8	79.6	88.1	84.1	114.6

Source: Yearbook of International Trade Statistics; United Nations

TABLE 2.3A

PERCENTAGE DISTRIBUTION OF IMPORTS BY COMMODITY SECTIONS

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Food	16.4	19.0	16.6	16.6	18.3	18.0	19.9	20.3	19.5	18.9	18.4	17.5
Beverages & Tobacco	2.1	2.3	1.8	1.7	1.9	1.7	1.8	1.8	1.9	1.6	1.7	1.9
Crude Mats. inedible, excl.fuel	32.8	29.5	39.3	37.3	28.8	27.2	22.6	18.2	18.5	18.5	14.4	11.7
Mineral fuels, Lubricants & rel.materials	19.3	17.9	15.4	14.5	14.5	14.9	13.7	13.5	13.4	15.3	16.8	17.2
Animal & Veg. oils & fats	0.7	0.8	0.8	1.0	0.9	0.9	0.9	1.0	1.5	1.4	1.5	1.0
Chemicals	2.9	3.0	2.9	3.1	3.9	3.9	4.2	4.9	5.0	5.0	5.4	5.0
Manufactured goods by mats.	12.0	13.2	11.1	11.5	14.1	14.2	15.4	16.0	16.4	16.1	18.1	20.8
Machinery, transport equipment	6.9	6.8	5.8	7.0	9.5	11.1	12.2	14.2	14.4	13.7	13.1	14.7
Miscellaneous manuf.articles	4.8	5.0	4.4	5.3	6.0	6.1	7.2	7.9	7.3	7.3	8.7	8.0
Miscellaneous transactions	2.1	2.5	1.9	2.0	2.1	1.9	2.1	2.2	2.1	2.2	1.9	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: From Table 2.3

in the imports of this section is not surprising.

Imports of foodstuff during this period show a notable increase, mainly as a response to increases in domestic demand attributable to growth of population and to some extent, of national income. By comparing both the value of imports and exports, the trend of growth of this section becomes more obvious. The imports of foodstuff, reinforced by the reduction of domestic supply, arises from land scarcity and is expected to rise further. The degree of reliance on imports of food in the future can, by some means, be reduced through import substitution, but under no circumstances will Singapore, a tiny island as such, attain food self-sufficiency.

It should be noted that a shift in the composition of trade reflects not only changes of domestic demand and supply, but also change of demand and supply of neighbouring countries. Since Singapore's trade is mainly entrepot, retained imports consist of only a small proportion of total imports and exports consist of largely the imports for re-exports, plus value added. The pattern of domestic demand for foreign goods can better be understood from the contents of retained imports.

3. The Composition of Exports

Similarly, the composition of exports must not be studied without caution. Generally, there are three major

factors that may potentially cause a change in Singapore's pattern of exports. First, the change of domestic industrial production; second, the change of pattern of demand for foreign goods of the regional countries whose imports are mainly via the port of Singapore; and third, the demand of developed countries for the primary products of this region, such as crude rubber, spices, lumber, palm oil, etc... Keeping these factors in mind, the causes of change in the composition of exports can easily be traced.

The most conspicuous change in the contents of exports during this period is the sharp decline in the section classified as crude materials and, on the other hand, substantial rise in exports of mineral fuels. A change of the composition of exports is always, in the case of Singapore, reflected in a change of the composition of imports. This is true since most of Singapore's exports are imports which have been further processed. In spite of a slight recovery in recent years, the value of exports of this section still remains far below any year prior to the confrontation. In 1959, when the price of crude rubber was at its highest, the total value of exports of this section accounted for almost one-half of the total exports, while in 1968, its share of total exports declined to only 28 percent. In terms of absolute value, total exports of crude materials in 1959 was $1669 million, while in 1968 it was only $1115 million. (See Table 2.4)

TABLE 2.4

VALUE OF EXPORTS BY COMMODITY SECTIONS, 1957-68

($ million f.o.b.)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Food	508.6	496.6	427.8	461.6	466.2	494.6	578.7	421.0	435.8	463.4	519.3	502.2
Beverages & Tobacco	74.6	70.2	62.5	70.4	67.9	60.6	52.2	42.4	46.3	43.5	39.4	48.2
Crude Mats. inedible, excl.fuel	1318.3	1172.8	1669.4	1558.4	1261.1	1215.1	1114.7	781.4	819.4	942.0	940.8	1114.9
Mineral fuels, Lubricants & rel.materials	506.5	433.3	388.0	392.1	373.0	415.6	432.8	362.4	431.1	593.6	677.1	809.8
Animal & Veg. oils & fats	58.8	46.2	42.4	50.3	46.8	38.6	40.9	43.9	60.0	66.7	68.9	93.4
Chemicals	71.4	73.9	75.7	86.3	101.1	98.1	107.3	103.4	111.6	118.2	114.5	119.5
Manufactured goods by mats.	423.7	364.0	291.8	314.5	373.8	381.1	409.7	359.3	356.8	370.1	359.9	389.9
Machinery, transport equipment	173.4	167.9	183.5	234.6	266.1	334.6	340.8	284.2	315.0	320.3	271.0	252.7
Miscellaneous manuf.articles	95.2	97.2	86.8	99.4	107.7	115.2	135.7	134.6	151.0	161.9	160.5	175.6
Miscellaneous transactions	247.7	218.3	212.4	209.5	244.9	263.3	261.7	239.6	277.2	293.9	239.1	384.5

Source: Yearbook of International Trade Statistics; United Nations

The value of exports of mineral fuels registered at $809 million in 1968, as compared with $507 million in 1957, an increase of more than $300 million or 60 percent over the period. The trend of exports of this section actually declined after 1957 to its lowest in 1964, and thereafter it began to rise at an accelerated rate. This significant change was purely a direct result of the expansion of production of domestic petroleum products.

The trends of exports of foodstuffs (as Table 2.5 indicates) were rather stagnant and sluggish. Its share of total exports remained stable, fluctuating between 12 - 16 percent of the total exports, while in terms of value, it was $502 million in 1968, slightly lower than the value in 1957, but higher than any year in this period except 1963 and 1967.

Exports of manufactured goods demonstrate no progress. The value of exports of this section stayed constantly below $400 million for all years but two of the period. It is therefore too risky to make any remarks on its future trends without looking at supply and demand conditions and the compositions of exports. The rate of increase in the exports of machinery transport and equipment was significant. In absolute value, it grew from $173 million in 1957 to $341 million in 1963, but in the following year it dropped to $284 million. The decline continued for the period 1967-68.

TABLE 2.5

PERCENTAGE DISTRIBUTION OF EXPORTS BY COMMODITY SECTIONS

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Food	14.6	15.8	12.4	13.3	14.1	14.5	16.6	15.2	14.5	13.7	14.9	12.9
Beverages & Tobacco	2.1	2.2	1.8	2.0	2.1	1.8	1.5	1.5	1.5	1.3	1.1	1.2
Crude Mats. inedible, excl.fuel	37.9	37.3	48.5	44.8	38.1	35.5	32.1	28.2	27.3	27.9	26.9	28.7
Mineral fuels Lubricants & rel.materials	14.5	13.8	11.3	11.3	11.3	12.2	12.5	13.1	14.4	17.6	19.4	20.8
Animal & Veg. Oils & Fats	1.7	1.5	1.2	1.4	1.4	1.1	1.2	1.6	2.0	2.0	2.0	2.4
Chemicals	2.1	2.4	2.2	2.5	3.1	2.9	3.1	3.7	3.7	3.5	3.3	3.1
Manufactured goods by mats.	12.2	11.6	8.5	9.0	11.3	11.1	11.8	13.0	11.9	11.0	10.3	10.0
Machinery, transport equipment	5.0	5.3	5.3	6.8	8.0	9.8	9.8	10.3	10.5	9.5	7.8	6.5
Miscellaneous manuf.articles	2.7	3.1	2.5	2.9	3.2	3.4	3.9	4.8	5.0	4.8	4.6	4.5
Miscellaneous transactions	7.2	7.0	6.3	6.0	7.4	7.7	7.5	8.6	9.2	8.7	9.7	9.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: From Table 2.4

Exports of the miscellaneous transactions section showed a gradual increase, and have become increasingly important, accounting for about 10 percent of total exports. Chemicals accounted for 3 percent, mineral and vegetable oils 2 percent and beverage and tobacco only 1 percent of the total exports in 1968.

4. Trade by Principal Commodities

There have been improvements in the diversification of trade during this period. In spite of this, it still remains true that total value of foreign trade is associated with the movements of the prices of a few major commodities, especially rubber, petroleum and petroleum products. The increasing importance of some new commodities does not eliminate the domination of total trade by only a few major commodities, but it has altered the pattern of trade.

Imports

The most important import items are crude rubber, crude petroleum and petroleum products, followed by textile and cotton fabrics, rice and motor vehicles. In 1957, the total value of imports of these principal commodities was $217 million, accounting for 55 percent of the total imports. From 1961 onwards, Singapore's imports have undergone considerable change. The most significant one is the drop in the value of imports of crude rubber and petroleum products and correspondingly a marked increase in the imports of crude petroleum, rice, cotton and

textile fabrics. As a result, the degree of monopoly of a few principal commodities in the import sector has been reduced to a considerable extent. They accounted for only 42 percent of the total imports in the period 1967-68 as compared with more than 50 percent in the period 1957-62. The cause of change is partly attributable to the fall in the price of crude rubber, due to increased competition from synthetic rubber. In addition, the disruption in the supply of rubber from Indonesia after the confrontation has reinforced this change.

The value of imports of crude rubber in the period 1959-60 was very high, accounting for more than one-half of the total value of imports of the principal commodities, (See Table 2.6), or more than one-third of the total imports in the same period. Table 2.6 also indicates that the total value of imports of this commodity in the period 1959-60 was more than $1360 million, while in 1968 it dropped to $395 million, or only one-tenth of the total imports (a fall of 33 percent to 1/10 of total imports). Chart 1 (see appendix) provides a view of the general trend of price of rubber in the period under review. Taking 1962 as a base year, the price in 1960 was twice as high as in 1967 and 1968. In the period 1957-61, the price still remained at a high level, but dropped continuously and sharply for subsequent years.

The future trend of imports of natural rubber depends very much upon world demand, which in turn depends

TABLE 2.6

IMPORTS OF PRINCIPAL COMMODITY, 1957-68

($ million c.i.f.)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Crude rubber	1045.4	921.9	1379.9	1360.2	984.0	969.8	820.9	501.1	556.2	586.1	457.4	395.4
Petroleum products	711.1	611.7	581.1	573.2	509.8	450.1	432.0	377.4	401.8	468.6	509.5	497.5
Petroleum(crude & partly ref.)	66.8	57.7	18.2	17.6	63.1	150.4	152.0	91.5	105.0	150.3	226.6	374.8
Motor vehicles (incl.parts)	79.8	71.5	70.0	91.8	126.1	176.2	193.5	164.2	185.1	152.0	128.3	141.7
Textile fabrics *	73.7	134.8	92.9	70.3	102.2	96.5	106.8	89.8	95.1	126.6	165.7	274.9
Rice	99.2	141.1	87.3	103.4	122.5	144.9	170.8	105.5	110.9	114.7	139.3	164.9
Cotton fabrics	94.4	87.2	82.3	101.2	115.2	105.1	125.4	102.1	104.6	96.6	134.1	180.2
Animal fodder	41.2	41.7	53.5	53.4	54.5	55.8	59.8	90.6	109.9	150.6	81.8	182.2
TOTAL	2211.8	2067.6	2365.2	2511.1	2077.4	2148.8	2061.2	1522.2	1668.6	1795.5	1842.7	2115.5
Ratio to total imports	54.5	55.3	60.5	58.1	52.4	53.2	48.2	43.8	43.8	44.2	41.8	41.6

* Other than cotton fabrics.

Sources: 1) Yearbook of International Trade Statistics, United Nations.
2) Monthly Digest of Statistics, 1970, Singapore, Department of Statistics.

upon the possibility of substitution of synthetic rubber for natural rubber. The quality of natural rubber is the most important factor determining its future demand. Although Singapore produces very little natural rubber, the trend of the latter's price is very crucial in determining its foreign exchange earnings, since its capacity to import is highly dependent on exports. According to the present value of exports, a drop in the price of rubber by ten cents per pound will lead to a loss at least equivalent to its value added.

By comparing both the values of imports of crude petroleum and petroleum products, it can be easily seen that the trends of imports of these two products were actually moving in the opposite direction since 1961. Before this date, crude petroleum was probably imported mainly for re-export. This can be seen by examining the trend of exports of crude petroleum and petroleum products for this period. The value of exports of crude petroleum have been expanding rapidly. It is therefore quite obvious that the crude petroleum was not imported for re-export, but rather was imported for the purpose of manufacturing petroleum products. The table below shows the values of exports and imports of crude petroleum.

Table 2.7- The Values of Imports & Exports of Crude Petroleum

($ million)	1959	1960	1961	1962	1963	1964	1965	1966
Imports(fob)	18.2	17.6	63.1	150.4	152.0	91.5	105.0	150.3
Exports(cif)	16.1	12.6	38.2	60.3	55.4	0.09	0.0	0.5

Source: Yearbook of International Trade Statistics U.N. (various years)

Although the values of the principal commodities, except crude rubber and petroleum products, have shown a marked increase during the period 1957-68, their share of total imports was in fact declining gradually throughout the period under review.

Exports

The character of exports of commodities was greatly affected by the change of structure of imports. The most conspicuous case is that of rubber, the exports of which vary directly with the value of imports as is indicated in Table 2.8. This follows logically since crude rubber is imported from the neighbouring countries mainly for re-export. In the period 1959-60, export of rubber alone accounted for more than 40 percent of the total exports. The decline in prices has caused the value of exports to drop sharply from $1537 million in 1957 to $877 million in 1968.

The progress of industrialization can be evidenced from the trend of exports of petroleum products which increased considerably after 1965, amounting to $806 million in 1968, as compared with $445 million in 1957. (See Table 2.8) The value of exports of petroleum products began to rise only after 1965, before which its value fluctuated within the neighbourhood of $370 million. From the stability point of view, petroleum products have at least some advantages over crude rubber in providing both employment and foreign exchange earnings.

TABLE 2.8

EXPORTS OF PRINCIPAL COMMODITY, 1957-68

($ million f.o.b.)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Crude rubber	1176.7	1050.6	1537.0	1431.8	1140.5	1098.9	978.1	652.8	677.0	769.2	765.0	876.9
Petroleum prod.	445.0	370.3	371.7	379.2	340.1	355.0	376.6	361.6	429.7	591.6	675.5	806.7
Coffee	87.6	70.9	49.1	40.1	55.5	61.6	96.0	29.0	28.4	61.0	127.9	102.1
Pepper	44.8	42.8	56.8	86.9	74.8	63.5	63.3	34.4	50.5	52.7	66.5	73.1
Cotton fabrics	69.7	65.6	59.6	66.2	71.9	70.9	83.9	68.7	66.2	54.7	50.6	54.2
Lumber		12.9	13.6	23.6	17.8	21.9	30.3	42.6	49.9	53.1	22.2	73.6
Fruits(prep.& preserved)	34.2	34.4	29.5	28.3	34.6	38.3	40.3	41.9	51.9	54.3	51.4	52.8
Rice	79.1	100.3	52.1	62.2	57.1	79.5	87.7	44.3	40.0	44.1	41.7	42.9
Palm oil	16.5	17.7	19.1	23.8	20.1	19.5	22.6	24.9	35.8	36.3	40.0	39.6
Textile fabrics *	40.4	81.9	46.7	39.3	50.8	54.6	42.2	42.4	35.8	36.0	36.8	49.4
TOTAL	1994.0	1834.5	2221.6	2181.4	1863.2	1863.7	1821.0	4342.6	1465.2	1753.0	1907.6	2171.3
Ratio to total exports	57.3	58.4	64.5	62.7	56.3	54.5	52.4	48.4	48.8	52.0	54.7	55.8

*Other than cotton fabrics.

Source: From Table 2.6

TABLE 2.9

INDICES OF EXPORTS OF RUBBER AND PETROLEUM PRODUCTS

1962=100

YEAR	RUBBER		PETROLEUM PRODUCTS	
	QUANTITY	VALUE	QUANTITY	VALUE
1957	92.8	107.1	77.8	125.4
1958	97.8	95.6	65.1	104.2
1959	108.6	139.9	66.8	104.7
1960	90.0	130.3	71.9	106.8
1961	98.9	103.8	85.8	95.8
1962	100.0	100.0	100.0	100.0
1963	93.3	89.0	105.6	106.1
1964	64.5	59.4	114.3	101.9
1965	67.3	61.6	146.0	121.0
1966	78.6	70.0	189.0	166.6
1967	97.6	69.6	220.6	190.3
1968	121.5	79.8	271.9	227.2

Source: Yearbook of International Statistics U.N. and Commodity Trade Statistics

Other items in the export sector which are becoming increasingly important are coffee, especially since 1967; lumber, totalling $74 million in 1968, nearly six times the value in 1958, and palm oil. Exports of textile, cotton fabrics and pepper showed little or no progress during this period. The fall in rice exports is because larger proportions of its imports have been retained for domestic consumption.

The share of exports of ten principal commodities to total exports was around 50 to 60 percent in this period.

Crude Rubber and Petroleum Products

Another striking feature of Singapore's trade is reflected in the close relationship between the trend of total imports and the value of imports of rubber and petroleum products, and the trend of total exports and the value of exports of these two products.

The share of these two products to both total imports and exports are remarkably high. In the case of imports, they accounted for more than 40 percent of the total imports in the period 1957-60. In 1959, when the price of rubber was at its peak, these two items constituted about 50 percent of the total imports. The ratio dropped to one-fourth in the period 1963-67 when prices of both these products fell. (See Table 2.9A)

TABLE 2.9A

VALUE OF IMPORTS OF RUBBER AND PETROLEUM PRODUCTS

Year	V_m (Value c.i.f.)	$\frac{V_m}{M}$ *	$\frac{V_m}{G.N.P.}$
1957	1757	43.2	95.7
1958	1534	41.0	80.3
1959	1961	50.2	103.4
1960	1933	47.4	100.1
1961	1484	37.7	67.0
1962	1420	35.2	58.6
1963	1253	29.3	47.7
1964	879	25.3	31.3
1965	958	25.2	31.0
1966	1055	25.9	29.9
1967	967	21.9	26.5
1968	893	17.0	23.2

* V_m = Value of Imports of Rubber and Petroleum
M = Total Imports

Source: From Table 2.6

In terms of ratio to G.N.P., it recorded as high as 100 percent in 1959-61 and decreased to about one-fourth in 1968. If crude petroleum is taken into account, the ratio would be much higher. (See Table 2.9B)

In the case of exports, the share of these two products on total exports is much higher and remains relatively stable. As a whole, it contributed 40 to 50 percent of total exports and roughly about 44 percent of G.N.P. in 1968.

Cyclical relationships between total imports and exports of crude rubber and petroleum products and between total imports and exports of these two products are presented in Charts 1 and 3 (see appendix) in the index form. In both cases, cyclical relationships are very close except in 1961-63 where the directions of fluctuation of the two products diverged from those of total imports and total exports.

Prices of these two major products moved adversely since 1960. This is the main reason why Singapore experienced a very low rate of expansion in international trade. As illustrated in Table 2.9B, both the exports of quality and the value of rubber receded, but the latter has apparently declined more rapidly than the former. This indicates that the price of rubber must have dropped continuously and noticeably. The observation is similar in the case of petroleum products. In spite of a decline in price, the value of exports in 1962-68 has doubled. Again taking both the value of exports of rubber

TABLE 2.9B

VALUE OF EXPORTS OF RUBBER AND PETROLEUM PRODUCTS

Year	V_x (Value f.o.b.)	$\frac{V_x^*}{X}$	$\frac{V_x}{G.N.P.}$
1957	1622	46.6	88.3
1958	1421	45.2	74.4
1959	1909	55.2	100.6
1960	1811	52.1	93.7
1961	1481	44.8	66.4
1962	1454	42.6	60.0
1963	1355	39.0	51.6
1964	1014	36.6	36.1
1965	1107	36.8	35.9
1966	1361	40.3	38.6
1967	1441	41.3	38.4
1968	1684	43.3	43.8

* V_x = Value of Exports of Rubber and Petroleum
X = Total Exports

Source: From Table 2.8

and petroleum products into consideration, the total value exported in 1968 is only slightly higher than the value in 1957.

In order to maintain total exports of these two products at their present level, the value of exports of these two products must increase at a rate sufficient to offset the adverse movement of prices.

The performance of both imports and exports greatly improved after 1965. The rates of expansion in crude petroleum and petroleum products, lumber and palm oil were more than sufficient to offset the contracting value of exports of rubber. As a result, the rates of growth of both exports and imports in the period 1964-68 were greater than the preceding period. The future rate of expansion in international trade depends to a considerable extent, upon the direction of change of prices of the principal commodities as well as the world demand for them.

5. Concentration in Trade

The concept of concentration, measured by the Gini coefficient was developed by Hirschman and Michaely.[9] Symbolically, the coefficient of concentration of commodity in imports can be written as:

---

[9] A.O. Hirschman, National Power and the Structure of Foreign Trade, University of California Press, 1945, and M. Michaely, Concentration in International Trade, North Hall and Publishing Company, 1962.

$$C_{mt} = 100 \sqrt{\sum_{i=1}^{n} \left(\frac{M_{it}}{M_t}\right)^2} \quad [10]$$

where M_{it} = the value of imports of commodity i in year t; M_t = total value of imports in year t

In Michaely's study, it is suggested first of all that the coefficient of exports is, for almost all countries, greater than the coefficient of imports. This is because each country seems to produce only those commodities in which it has a comparative advantage, and to import the commodities which are not available or produced sufficiently at home. Secondly, the coefficient of both the exports and imports are higher for developing countries, which can be explained as due to the fact that a more developed country is usually able to produce goods of a greater variety than the relatively less developed countries. It can also be inferred that as a country becomes more developed (or per capita income rises) the people are more able than previously to purchase a wider range of goods from abroad. Thus the degree of concentration in imports will be reduced. As a result, the gap between the degree of concentration in imports and in exports in these countries is likely to be narrow. Thirdly, the coefficient of concentration is associated with the size of a country. Larger countries tend to have a lower value of coefficient in trade, due to the fact

---

[10] Coefficient of concentration of exports is measured exactly in this manner. To represent the coefficient in percentage form, it is multiplied by 100.

that a large country, having different geographical and climate regions, generally possesses a greater range of endowments and is suited for a wider variety of cultivation. Fourthly, the coefficient of concentration is also affected by the location of a country, i.e., the nearer its location to trade zones, the lower would be its degree of concentration in trade.[11] In addition, it is also believed that small countries, confronted with a limitation of domestic market, and in an unfavourable position to introduce capital-intensive industries or engage in large-scale production, which in most cases is limited only to agricultural goods (manufactured goods have to be imported), tend to have a high degree of concentration in exports and a relatively low degree of concentration in imports.[12]

Geographical Concentration

The general pattern of trade of a country can be analyzed from the aspect of degree of commodity and geographical concentration. According to Hirschman, geographical concentration tends to be high in exports rather than imports; this being particularly true in the case of small countries where foreign trade is relatively important.[13] This observation is reinforced by Michaely's findings from which he perceived that: "the geographical concentration of exports is stronger, the

---

[11] Michaely, op cit.

[12] For this argument, see especially Kynet, op.cit.

[13] Hirschman, op.cit., p 106.

stronger the commodity concentration of exports."[14]

Michaely is also aware that the coefficient of concentration in trade may be affected, to considerable extent, by government policy. A country with a free trade policy will have a greater choice of trading partners and therefore it would presumably have a lower coefficient of geographical concentration than those countries whose trade is tied to particular nations by political obligations. Moreover, geographical accessibility and proximity are also believed to have direct relation with geographical concentration.[15] Another interesting observation in Michaely's study is his discovery that there is a tendency for the degree of geographical concentration to be associated closely with the size of trading partners. More precisely, the degree of geographical concentration tends to be higher in a country whose trading partners are of a large size than in those countries whose trading partners are small in size.[16]

Concentration and Stability

Countries with high degree of concentration frequently suffer from violent fluctation in trade, especially those primary export countries which are experiencing a marked deterioration in their terms of trade. This observation is particularly true for those countries exporting only a single

---

[14] Michaely, op.cit., p 21

[15] Ibid

[16] Ibid

or a few major products, where the movement of trade is closely linked to the direction of change in the prices of the principal exports. A country diversified in trade may be able to avoid such violent fluctuations, since adverse movements of prices of some commodities might be completely or partially offset by favourable movements of prices of other commodities. The composition of trade may also affect the terms of trade; for instance, primary product exporting countries are generally importers of manufactured goods and, therefore, it is more likely that countries which fall into this category may suffer greater amplitude of fluctuations than those countries exporting and importing mainly manufactured goods.[17] However, Massell's findings did not fully support this argument. Although a positive correlation exists between export earnings and commodity concentration, it is not a significant relationship.[18]

Singapore's case is a special one and therefore requires careful consideration. The composition of trade of Singapore is not determined by domestic demand and supply conditions, but rather is determined by demand and supply conditions in neighbouring countries. With no or very little natural resources, and as a free port, Singapore's imports in fact fall into two main categories: (i) for domestic consumption or

---

[17] Ibid

[18] F. Massell, "Exports concentration and fluctuation export earnings: A Cross Section Analysis", American Economic Review, March, 1964.

retained imports and (ii) for re-export. The contents of Singapore's exports consists chiefly of primary products. The degree of concentration in trade therefore depends, to a considerable extent, upon the scope of production in the region.As long as Singapore continues to engage in entrepot trade, its concentration in trade will depend on the degree of diversification of production of the South-east Asian region. If,for example,the region specializes only in the production of one or two products, which must be exported via the port of Singapore, the coefficient of concentration on Singapore's trade is bound to be high. If, on the other hand, the production in the region is highly diversified, the degree of concentration in trade is expected to be low. The extent which Singapore's concentration in trade will be higher or lower than that of the neighbouring countries depends upon the economic conditions of the individual countries. However, there is no reason why Singapore, as a commercial centre, should have a significantly higher degree of commodity concentration than her neighbouring countries.

With respect to geographical concentration, the coefficient is also expected to be low due to Singapore's status as a free port and her neutral commercial policy which help to promote geographical diversification.

The coefficient of commodity concentration in exports exhibited a substantial decline in the period 1960-66, from 43.3 to 30.4 percent. In 1968 it rose to 36.1 percent. (See Table 2.10) This trend demonstrates some degree of improvement

in trade diversification. The structural change can be explained simply as the result of government industrial policy, coupled with the shift of world demand from some commodities to the others. To be sure, the coefficient of concentration is still largely dependent upon the pattern of world demand for products of this region, especially natural rubber.

The degree of concentration in imports declined steadily throughout this period. In 1968, the value of concentration fell to half the 1957 value, i.e. from 32.0 to 16.1 percent. As industrial development progressed, there has been a reduction in domestic demand for some commodities and an increase in demand for others, such as raw materials and capital goods.

The gap between the coefficient of concentration in exports and in imports, measured by the ratio C_x/Cm, has been widening due to a relatively greater decline in the coefficient of concentration for imports than for exports. This significantly implies that Singapore has achieved a high diversification of imports, while exports are still confined to a narrow range of primary products. In other words, the source of exchange earnings from exports is still potentially unstable.

Contrary to expectations, Singapore has a relatively low coefficient of geographical concentration. In 1957, the coefficient of geographical concentration in exports was 27 as compared with 36.6 in imports. The ratio of G_{xt}/G_{mt} was 0.73

It is interesting to note that the gap between the two coefficients was identical in 1966 and remained almost the same in 1968. It can be seen from the following table that only in 1963 was the coefficient of geographical concentration in exports notably higher than that in imports.

TABLE 2.10 - Coefficient of Commodity Concentration[19]

Year	C_{xt}	C_{mt}	$\frac{C_{xt}}{C_{mt}}$
1957	37.0	32.0	1.56
1960	43.3	36.9	1.17
1963	31.6	23.8	1.32
1966	30.4	20.5	1.48
1968	36.1	16.1	2.24

TABLE 2.11- Coefficient of Geographical Concentration

Year	G_{xt}	G_{mt}	$\frac{G_{xt}}{G_{mt}}$
1957	27.0	36.6	0.73
1960	28.8	35.5	0.81
1963	32.9	29.0	1.13
1966	30.8	30.8	1.00
1968	27.6	27.3	1.01

[19] Calculations for 1957 and 1960 are based on old SITC classification. For 1963, 1966 and 1968, they are based on revised SITC classification. The lowest possible coefficient measured by $100/\sqrt{N}$ for the old 150 commodity group is 8.2 and 7.9 for the 177 revised groups. In both cases, the highest possible coefficient is 100.

A country is said to be highly geographically concentrated if its coefficient of concentration is higher than 40%. According to Hirschmann and Michaely, small countries tend to have a high degree of geographical concentration, but this is not the case for Singapore. By definition, Singapore is a country whose trade is equally distributed among her trade partners, that is, her trade is diversified geographically. The low coefficient of concentration is associated with Singapore's location and commercial policy. Apart from this, a neutral political policy would also help Singapore to reduce its concentration trade.

Evidence shows that a high degree of commodity concentration is often associated with a low rate of growth in trade. At least this observation holds in the case of Singapore where the rate of growth of exports and imports was low with a relatively high coefficient of concentration. More recently, the rate of growth in both sectors has been high while the coefficient of concentration declined. A similar study has been made by the United Nations Economic Commission for Asia and the Far East. The results seem to support this argument and the Report concludes that "on the whole, countries with negative or low rate of growth of exports are also those with the highest commodity concentration ratio in 1965 and vice versa..."

TABLE 2.12 - Coefficients of Commodity Concentration of Exports and Growth

Country	C_{xt}(1965)	Annual Rate of Growth of Exports (1960-66)
Cambodia	91.4	6.4
Burma	87.3	- 1.8
Vietnam(Rep.of)	73.8	-16.1
Ceylon	69.3	0.7
Pakistan	58.3	7.6
Malaysia(West)	52.8	2.1
Korea(Rep.of)	47.8	41.8
Indonesia	45.5	- 2.9
India	43.9	4.3
Thailand	40.7	9.2
HongKong	31.8	12.3
Philippines	31.4	8.7
Taiwan	25.8	23.5

Source: Economic Survey of Asia and the Far East, U.N., 1967.

6. Entrepot Trade

International trade in Singapore is mainly entrepot trade which has been, for more than a century, the greatest source of foreign exchange earnings and of employment. Due to its excellent geographical position, Singapore within a short period of time following its foundation has become the most important trade centre in the region, trading not only with regional countries, but also with India, China, Sumatra and Europe and reaching as far as North America.

Entrepot trade consists chiefly of (i) primary products produced mainly in neighbouring regions; (ii) locally manufactured products and (iii) manufactured goods from outside of the region. The primary products comprise many types of tropical produce ranging from edible foodstuffs, such as rice, coffee, etc... to materials such as rubber and crude petroleum. The services provided by Singapore are of many forms, including storage, sorting, grading, processing and trans-shipping regional products to purchasers outside the region in exchange for manufactured goods to be redistributed within the region. It is estimated that about 20 percent of G.N.P. is made up of entrepot trade in the form of value-added or service-rendered. In absolute value, approximately $370 million was added to G.N.P. in 1959 as compared with $644 million in 1968.[20]

---

[20] Figures provided by Singapore Embassy to U.S.A.

The embargo on trade by Indonesia in 1964 has caused heavy losses in both Singapore's foreign exchange earnings and employment. However, the loss has been gradually compensated for by the expansion of trade with old and new partners. It is also estimated that roughly about 15 percent of the labour force are directly or indirectly employed in activities related to entrepot trade.[21]

Although no detailed figures pertaining to entrepot trade are available, a number of methods can be employed to estimate its magnitude.[22] It should be noted that these methods will provide approximate rather than accurate values.[23]

In recent years, entrepot trade appears to have been rather sluggish (See Table 2.13). This might be the result of a change of trade policy of the regional countries towards an emphasis on direct trade rather than trade passing through Singapore.

---

[21] First Development Plan, 1959-63.

[22] Condern and Richter, "Malayan Trade Statistics and the Entrepot Trade" in Silcock and Fish, ed. The Political Economy of Independent Malaya (Berkeley, Los Angeles: University of California Press, 1963)

[23] The concept of entrepot trade can be expressed as follows:

$X_e=M_t-M_r+V_a$, $X_t=M_t-M_r+V_a+X_d$

$X_e=X_t-X_d$. Where X_t=total exports, M_t=total imports, M_r=retained imports, V_a=value added, X_d=domestic exports, X_e=total entrepot trade.

TABLE 2.13

ENTREPOT TRADE AND DOMESTIC EXPORTS, 1961-68

($ million)

Year	Retained Import	% of total Imp.	Imp.for re-Exp.	% of Total Imp.	Total re-Exp.	% of total Exp.	Domestic Exports	% of total Exp.
1961	1361	34.3	2602	65.7	3084	93.2	225	6.8
1962	1435	35.6	2601	64.4	3165	92.6	252	7.4
1963	1737	40.6	2542	59.4	3198	92.0	277	8.0
1964	1600	46.0	1879	54.0	2475	89.3	297	10.7
1965	1791	47.0	2016	53.0	2658	88.5	346	11.5
1966	1907	46.9	2159	53.1	2976	88.2	398	11.8
1967	2330	52.9	2077	47.1	3109	89.1	387	10.9
1968	2948	58.0	2136	42.0	3441	88.4	450	11.6

Source: Calculation based on data from Economic Development Board Annual Report, 1968

It also indicates in Table 2.13 that retained imports have increased very rapidly, amounting to $2984 million or 58 percent of total imports in 1968, as compared with only $136l million or 32 percent of total imports in 1961. In other words, the value of imports for re-export had dropped from 67 to 42 percent of total imports. The confrontation with Indonesia caused a great loss in entrepot trade, estimated at about 20 percent.[24] But the loss of trade with Indonesia was offset by 1967 with the successful establishment of trade links with new partners and the expansion of trade volume with old partners.

The importance of entrepot trade can be expressed in terms of a percentage of total exports. In 1961 it accounted for 93 percent of total exports, which by 1968 had declined to 88 percent. In absolute terms, its value was augmented by more than $360 million. On the other hand, domestic exports have become increasingly important, rising from $225 million in 1961 to $450 million in 1968, or 6.8 and 11.8 percent respectively, of total exports. Domestic exports are expected to rise further with industrial expansion.

---

[24] The value of imports from Indonesia accounted for about 20 percent of the total imports and the value of exports to Indonesia accounted for about 9 percent of the total exports in 1962.

7. The Direction of Trade

The change in composition of trade has been followed by a change in the direction of trade over the period. After 1964, Indonesia, formerly the largest exporter and Singapore's second largest trade partner, cut off its trade with Singapore. In 1961, total value of imports from Indonesia amounted to $804 million or about 20 percent of the total imports, while total exports from Singapore to Indonesia was valued at only $293 million. Singapore's net imports from Indonesia were $512 million in 1962, compared with $878 million in 1960. The main import from Indonesia was crude rubber. It is believed that even if the trade relationship between the two countries is fully restored, the volume of trade will not be as high as the pre-confrontation level.

West Malaysia remains the most important and largest trade partner. In 1966 total imports from this country were $943 million, while exports in the same period were $908 million. In 1968 the value of both imports and exports declined, but they still accounted for more than 17 percent of total trade.

Imports from West Malaysia consists of mainly primary products while exports include foodstuffs, manufactured goods, machinery and transport equipment. The trend of trade with east Malaysia showed a steady increase over the period.

TABLE 2.14

TRADE BY PRINCIPAL COUNTRIES (SELECTED YEARS)

($ million)

	1958		1960		1962		1964		1966		1968	
	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.
Australia	106.5	111.7	106.0	40.7	127.3	29.8	160.5	25.1	189.3	70.3	216.5	89.3
China	150.4	64.8	139.8	86.9	156.2	2.3	196.5	1.0	271.6	137.2	460.0	81.2
France	22.7	102.8	29.0	91.4	34.4	72.0	31.2	48.5	35.8	61.9	44.8	60.5
Germany(Fed.Rep.)	58.1	68.6	74.1	78.7	98.6	69.1	91.0	48.0	111.6	48.8	129.7	81.9
HongKong	89.1	48.7	89.6	60.0	107.8	70.4	114.4	156.3	112.9	120.4	144.5	141.7
Iran	33.1	1.7	59.1	5.2	56.9	5.1	74.5	6.1	114.6	7.9	138.1	6.5
Italy	15.6	70.4	17.4	82.4	38.4	70.6	27.7	39.2	33.4	43.1	55.8	45.4
Japan	268.8	187.7	298.1	156.7	366.7	100.6	364.6	95.0	463.7	123.3	692.3	274.4
Kuwait	-	-	-	-	123.3	2.0	122.8	1.9	154.8	4.7	340.1	7.9
E.Malaysia	178.0	124.5	222.2	159.5	143.6	171.3	185.1	223.9	222.9	287.5	239.7	287.0
W.Malaysia*	639.5	659.3	852.9	843.0	727.7	941.6	791.9	925.5	943.5	907.6	810.1	756.0
Netherlands	52.9	72.3	58.8	57.8	68.6	47.7	63.0	24.9	78.2	50.3	79.0	86.3
Thailand	130.1	81.7	145.8	107.3	120.0	91.1	130.1	91.2	161.9	117.6	166.2	171.5
U.S.S.R.	1.0	66.8	6.6	61.9	8.7	136.3	9.0	75.5	9.5	110.8	110.9	111.0
United Kingdom	400.5	255.9	363.1	286.8	384.7	216.8	349.8	183.1	408.1	184.8	396.1	245.5
U.S.A.	116.8	173.2	156.1	242.2	201.3	283.6	193.2	116.5	210.8	161.5	347.8	329.5
Indonesia	965.2	352.3	999.3	121.1	804.2	292.5	-	-	-	-	-	-

* Imports f.o.b., Exports c.i.f.

Singapore's trade with Japan, the People's Republic of China, Kuwait, Iran and United States increased markedly. All these countries are net exporters, total net imports from the first three countries ranging from $300 to more than $400 million. It is worth noting that total trade with Iran and Kuwait increased rapidly after 1964. These two countries have become the main source of supply of crude petroleum since the confrontation with Indonesia.

It can be seen from Table 2.14 that almost all of Singapore's principal trade partners are net exporters; East Malaysia and France being net importers during the period under study. Most important of all, total trade with these countries expanded over time.

CHAPTER III

THE IMPACT OF INTERNATIONAL TRADE ON ECONOMIC GROWTH

1. The Growth of Gross National Product

Per capita G.N.P., derived to a considerable extent from international trade, is the highest in Southeast Asia, and among the highest in Asia. The growth of G.N.P. in real terms almost doubled in this period. It rose from $1798 million in 1957 to $3507 million in 1968, at an annual average rate of more than 6 percent. Per capita income in real terms rose from $1244 in 1957 to $1764 in 1968, the annual average rates of growth for the periods 1957-62 and 1963-68 being 2.4 and 4 percent respectively. (See Table 3.1)

Stagnation in foreign trade in the period 1957-68 did not slow down the rate of growth of G.N.P. due to the high rates of growth in the manufacturing, construction and government service sectors. The rate of growth of G.N.P. in one period 1957-62 was offset by the high rate of population growth, while a decline in population growth in the period 1963-68 reinforced the expansion in per capita G.N.P.

TABLE 3.1

GROWTH OF G.N.P. AND PER CAPITA G.N.P., 1957-68

At constant price
(1960=100)

	G.N.P. ($ million)	Average Rate of Growth	Per Capita G.N.P.	Average Rate of Growth
1957	1798		1244	
1958	1902		1256	
1959	1888		1195	
1960	1932	6.2	1182	2.4
1961	2238		1326	
1962	2409		1390	
1963	2568		1447	
1964	2714		1492	
1965	2950		1582	
1966	3301	6.38	1725	4.1
1967	3324		1700	
1968	3507		1764	

Source: From Table 1.4

2. The Change of Composition of Gross Domestic Product

During the period of study, the composition of G.D.P. has undergone some striking changes. First, the contribution of agriculture to the growth of G.D.P. declined sharply. It dropped from 6 percent of G.D.P. in 1959 to 3.5 percent in 1968. Throughout the period 1959-66, its share of G.D.P. slightly exceeded that of both the construction and dwelling sectors, and only in 1966 was it surpassed by these two sectors. In view of the increased demand for land by both the dwelling and manufacturing sectors, more land will be utilized for housing and industrial purposes. As a result, it is likely that the contributing share of agriculture to G.D.P. will continue to decline. Secondly, the contribution of the manufacturing sector to the growth of G.D.P. has become increasingly important. Thus, the shift of relative importance from the agricultural sector to the manufacturing sector can be explained as a result of the pattern of growth in the process of industrial development.[25] The share of this sector's contribution to G.D.P. in 1959 was nearly 9 percent, but in 1968 it had increased to 16 percent,(see Table 3.3) increasing in absolute terms from $170 million to $675 million. (see Table 3.2) It is interesting to note that in spite of limitations in the expansion of foreign trade, the share of G.D.P. remains

---

[25] Chenery, Hollis B., "Patterns of Industrial Growth", The American Economic Review, 1960

TABLE 3.2

GROSS DOMESTIC PRODUCTS BY INDUSTRIAL ORIGIN, 1959-68

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Agriculture & Fishing	121.0	124.0	135.0	138.0	146.8	142.0	139.6	152.8	146.0	148.2
Manufacturing	170.2	187.4	218.3	246.8	294.8	330.5	414.3	486.8	565.5	765.0
Construction	40.3	41.1	66.0	71.0	94.7	113.9	130.6	128.7	150.1	179.8
Electricity, Gas & Water Services	45.5	47.3	47.2	53.0	52.8	59.2	54.0	73.3	92.7	108.8
Entrepot Trade &Domestic Trade	624.0	650.1	703.9	717.8	859.4	708.1	772.1	878.7	974.7	1349.6
Ownership of Dwellings	84.6	92.6	101.0	104.0	110.4	118.1	128.7	141.5	152.5	167.2
Government Services	110.4	106.6	144.0	164.0	189.0	191.0	214.0	246.4	264.9	300.3
Other Services	772.0	796.1	824.4	876.8	935.9	1037.5	1189.9	1257.0	1270.9	1328.1
GROSS DOMESTIC PRODUCTS	1968.0	2446.0	2239.8	2371.4	2683.8	2700.3	3043.4	3365.2	3617.3	4257.0

Source: Figures provided by Government Office.

TABLE 3.3

GROSS DOMESTIC PRODUCTS BY INDUSTRIAL ORIGIN, 1959-68

(%)

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Agriculture & Fishing	6.1	6.1	6.0	5.8	5.5	5.3	4.6	4.5	4.0	3.5
Manufacturing	8.6	9.2	9.7	10.4	11.0	12.2	13.6	14.5	15.6	15.9
Construction	2.0	2.0	2.9	3.0	3.5	4.2	4.3	3.8	4.1	4.2
Electricity, Gas & Water Services	2.3	2.3	2.1	2.2	2.0	2.2	1.8	2.2	2.6	2.6
Entrepot Trade &Domestic Trade	31.7	31.8	31.4	30.3	32.0	26.2	25.4	28.1	26.9	31.7
Ownership of Dwellings	4.3	4.5	4.5	4.4	4.1	4.4	4.2	4.2	4.2	3.9
Government Services	5.6	5.2	6.4	6.9	7.0	7.1	7.0	7.3	7.3	7.1
Other Services	39.2	38.9	36.8	37.0	34.9	38.4	39.1	37.4	35.1	31.2

Source: From Table 3.2

relatively stable for the period except for the years 1964-67.

The share of the construction and government service sectors also showed notable increase throughout the period 1957-68, while those of gas, electricity and water and other service sectors fluctuated. The latter, in fact, has declined by roughly 8 percent during this period.

A general conclusion can now be drawn on the basis of the above observations. First, since the contributions of agricultural and other service sectors have been declining, and the contributions of government service, dwelling and public utilities sectors have been relatively stagnant, they cannot provide stimulus for growth in the future. Therefore, the manufacturing and construction sectors will have to play a relatively important role if economic growth is to take place in the near future. Secondly, the share of contribution by the trade sector will remain important since both imports and exports have been growing rather rapidly. Thirdly, the difference in magnitudes of contribution to G.D.P. by the trade and manufacturing sectors are likely to persist over time despite continuing growth in the former sector. But the rate of growth of this sector is not likely to be as high as that of the manufacturing sector as a result of changes in trade policies by neighbouring countries and instabilities in prices of primary products which will hurt export expansion, while manufacturing growth potential is still unlimited.

3. Changes in the Patterns of Consumption

Although private consumption increased in absolute terms, it declined relative to G.N.P. for the years 1957-68. The annual average rates of growth of consumption in real terms were 4 and 5.2 percent respectively for the periods 1957-62 and 1963-68. The average propensity to consume (A.P.C.) was high in the period 1957-63 as compared with that of the period 1964-68. (See Table 3.4) Unfortunately, disposable income data is not available to provide greater insight, although marginal propensities to consume (M.P.C.) may be derived by using G.N.P. in place of disposable income. In this case, the result may not accurately represent consumer consumption behavior, but it will be of some help to the extent that our purpose is to analyze and observe the general pattern of private consumption. Evidence in Table 3.5 indicates that consumption patterns changed slightly as G.N.P. rose, expenditures shifted from one category to another as consumer income increased. As expected, consumption of foodstuffs declined as expenditure on consumption increased, while demand for clothing, personal requirements and other commodities, presumably recreational and luxurious goods became relatively more important.

Expenditures on transportation and communication also increased but not substantially. Higher consumption of beverages, tobacco and housing was less evident.

Shifting expenditure patterns may be due to changes in consumption habits, income distribution, population structure or simply the result of income growth. Theoretically, the proportion of consumption to income is expected to decline as national income increases. This thesis has received empirical verification.[26] On the other hand, the proportion may also remain considerably stable over a long period of time.[27]

The effect of changes of population structure on consumption expenditure seems to be weak, since the change in population structure was not substantial in the period. Perhaps we can tentatively conclude that the decline in proportion of consumption to G.N.P. in recent years was jointly affected by the expansion of national income, changes in income distribution, employment structure and institutional factors.[28]

The consumption expenditure on food was a large proportion of the total expenditure, accounting for roughly about 30 percent. Rice, meat, fish, fruits and vegetables are the main items in this category, which altogether

---

[26] Arthur Smithies, "Forecasting Post-War Demand:I" Econometrica, Vol.13, Jan.1945.

[27] Simon Kuznets, National Product Since 1869, National Bureau of Economic Research, 1946.

[28] The Central Provident Fund Board perform a very important role in helping wage and salary workers to save. The Ordinance of the Board stipulates that all employers have to contribute 5 percent on behalf of their employees, and additional deduction of 5 percent from the employees if their earnings are above $210 per month to the C. Board.

absorbed more than 80 percent of expenditure devoted to food. The share of expenditure on clothing and personal requirements was 15 percent or one-half of the food expenditure. Transport and communication and housing amounted to 11 and 8 percent respectively of total consumption expenditure. (See Table 3.5)

With the exception of furniture and housing equipment, income elasticities for these major consumption items are low. Food has the lowest income elasticity, approximately 0.5, implying that consumption expenditures on food will not increase proportionatly with income. This is also true in the cases of beverage, tobacco, housing and clothing, whose income elasticities are also less than unity. (See Table 3.6) Income elasticity of demand for furniture and household equipment is greater than unity, which indicates that demand for household equipment is responsive to changes in national income.

Introduction of new types of commodities and services, coupled with growth of G.N.P., may induce consumption expenditures to shift from old categories to new ones. If this is the case, it will cause a change in consumption patterns. Since income elasticities of basic items are low, it is quite likely, at least in the foreseeable future, that consumption expenditures on these items, except for furniture and household equipment, will not increase proportionately with

increases in national income. Thus, the consumption pattern in the immediate future is predictable, and it is likely that the direction of production will follow the pattern of consumption.

4. Gross Domestic Fixed Capital Formation

The rates of growth of gross domestic fixed capital formation increased rapidly for the period under study. The proportion of gross domestic fixed capital formation to G.N.P. showed a slight decline in the period 1958-60, i.e., from nearly 14 percent in 1957 to 7 percent in 1960. Thereafter, it rose consistently, reaching 19 percent in 1968. (See Table 3.4)

Manufacturing and construction sectors jointly made up the largest share of fixed capital formation, accounting for more than 50 percent in the period 1967-68. Transport and communication and the dwelling sector contributed 16 and 20 percent respectively in 1968.

The industrialization programme, initiated in 1959, has undoubtedly led to increased expenditure on capital formation in the above sectors, especially in manufacturing and construction. The decline in expenditure on fixed capital formation in the period 1959-60 was probably affected first of all by political changes. A newly elected labour and socialist-oriented government, whose economic policy was uncertain and unknown to investors, might have been the main

factor that caused temporary reduction in new private investment expenditures. Secondly, private investment might also have been discouraged by curtailment of public administration expenditure in this period. Thirdly, a time-lag in policy-making and the preparation of a detailed plan for the industrialization programme might have been one of the chief factors causing the public sector to hold back on investment expenditure.

It appears that the public sector played a more important role than the private sector in the growth of capital formation during the period 1960-63. In the initial stage of industrial development, as in most of the developing countries, the public sector usually plays a leading role, and therefore its expenditure is expected to be high. In underdeveloped countries, capital shortage is one of the most serious problems for economic development. A favourable environment for investment is essential in inducing foreign capital expenditure on domestic resources.

In Singapore, the annual average growth rate of fixed capital formation rose rapidly from 6.6 percent in real term for the period 1957-62 to 18 percent in the period 1963-68. (See Table 3.4) It should be noted that the rate of growth of gross domestic fixed capital formation is not necessarily directly related to gross domestic savings. For example, in the case where domestic fixed investment exceeds

TABLE 3.4

CONSUMPTION AND CAPITAL FORMATION, 1957-68

($ million, at Constant Price, 1960=100)

Year	Private Cons.(C_p)	Average Rate of Growth	$\frac{C_p}{G.N.P.}$	Govt. Cons. (C_G)	Average Rate of Growth	$\frac{C_G}{G.N.P.}$	Fixed Cap. Formation	Average Rate of Growth	$\frac{FCF}{G.N.P.}$
1957	1589		88.4	195		10.8	242		13.5
1958	1685		88.6	213		11.2	248		13.0
1959	1712		90.7	219		11.6	150		7.9
1960	1822	4.3	94.3	213	8.5	11.0	142	6.6	7.3
1961	2024		90.4	258		11.5	236		10.5
1962	2056		85.3	290		12.0	260		10.8
1963	2252		87.7	313		12.2	320		12.5
1964	2213		81.5	257		9.5	407		15.0
1965	2237		75.8	302		10.2	455		15.4
1966	2473	5.2	74.9	381	10.1	11.6	443	18.0	13.4
1967	2626		79.0	434		13.0	471		14.2
1968	2771		79.6	493		14.2	664		19.1

Source: From Table I.4

domestic savings, part of the investment expenditure may be financed by foreign capital in the forms of foreign loans, grants or direct investment.[29]

Comparing the rate of saving and the rate of capital formation, it reveals (see Table 3.7) that average propensity to save was surprisingly low for the years 1957-63. In the period 1959-61, a negative rate of saving was observed, while in the same period, gross domestic fixed capital formation as a percentage of G.D.P. was also comparatively low; nevertheless it still exceeded 7 percent. With the exception of 1965 and 1967, the rate of gross domestic saving was far exceeded by rate of gross domestic fixed capital formation.

Table 3.4 reveals that proportion of consumption to G.N.P. did not decline as national income increased in the period 1967-68. Perhaps the sudden rise in private consumption expenditure (public consumption expenditure remained rather stable) was due to unexpected changes in consumption behaviour. As one can see from Table 3.4, this situation did not persist.

---

[29] Gross domestic savings minus domestic fixed investment equals exports less imports of goods and services: (or S-I=X-M) I=S+M-X if investment exceeds savings, imports must also exceed exports.

TABLE 3.5

COMPOSITION OF PRIVATE CONSUMPTION EXPENDITURE, 1960-68

(%)

-	1960	1961	1962	1963	1964	1965	1966	1967	1968
A. GOODS									
FOOD	34.3	32.9	32.8	31.6	31.1	31.1	30.7	30.4	29.7
BEVERAGE & TOBACCO	.7.9	8.2	8.2	8.0	8.5	8.7	8.6	8.6	8.7
CLOTHING & PERSONAL REQUIREMENTS	13.4	13.8	12.6	14.7	14.0	13.8	14.0	14.2	14.9
OTHERS	12.5	13.5	14.6	15.7	14.5	14.7	15.3	16.2	15.8
TOTAL	68.1	68.3	68.2	70.0	68.1	68.3	68.5	69.4	69.2
B. SERVICES									
HOUSING	8.1	7.6	7.6	7.1	7.7	7.7	7.8	7.9	8.0
TRANSPORT & COMMUNICATION	10.9	10.7	10.9	10.6	11.2	11.3	11.3	10.9	11.3
OTHERS	12.9	13.4	13.2	12.3	13.0	12.7	12.3	11.8	11.5
TOTAL	31.9	31.7	31.7	30.0	31.9	31.7	31.5	30.6	30.8

Source: Yearbook of Statistics, 1967-68

TABLE 3.6

INCOME ELASTICITY OF EXPENDITURE ON MAJOR ITEMS

ITEMS	ELASTICITY OF EXPENDITURE
Food	0.502
Beverage & Tobacco	0.650
Clothing & Personal Requirements	0.855
Housing	0.776
Furniture & Household Equipment	1.269
Transport & Communication	0.986

Source: Calculated from Table 3.5

TABLE 3.7 - Gross Domestic Savings and Gross Domestic Capital Formation, 1957-68

(at constant price, 1960 = 100

Year	$\frac{S}{GDP}$	$\frac{I}{GDP}$
1957	2.4	13.2
1958	1.8	12.8
1959	- 0.7	7.8
1960	- 2.8	7.2
1961	- 0.6	10.4
1962	3.5	12.7
1963	1.9	12.2
1964	10.5	14.7
1965	15.0	15.2
1966	14.5	13.3
1967	9.4	13.9
1968	7.4	18.8

Source: Appendix, Table I

Because of low level of savings, capital formation in the period 1957-63 must have been financed by the inflow of foreign capital; generally, the performance of domestic savings in the whole period was far from satisfactory and steps should be taken to curb private demand in order to increase total investment and accelerate economic growth. It is not always a wise policy to rely too heavily on foreign borrowing or foreign capital for development financing without resorting to domestic savings, especially in cases where voluntary savings can be successfully promoted or compulsory savings enacted via taxation, restrictions on unnecessary consumption import, or credit expansion. The export sector is another source of earnings which can be augmented in two ways: first, by increasing the export of domestic products which can be expanded through raising productivity. Second, by improvements in entrepot trade which can be achieved through international negotiation. This policy, in short, implies two things: (i) to extend trade with existing partners, and to seek new trade partners; (ii) to seek price stabilization agreements so as to reduce instabilities in exports thereby ensuring more stable foreign exchange earnings.

5. The Importance of Domestic Investment

It is generally alleged that the international trade of a small nation is often subject to domination by large nations whose demands, by virtue of their large domestic absorption capacities, are large enough to determine the magnitude and the direction of foreign trade of the small nation.[30] The presence of domination by a large nation in international trade of a small nation has frequently led to instabilities in the sector, although theoretically, the terms of trade may be in favour of small nations.

Singapore's foreign trade, consisting mainly of entrepot trade, is governed largely by both the demand and supply conditions of foreign countries. As a result, foreign trade is often subject to fluctuations. It is often a danger to rely heavily on a single major economic activity because the higher the degree of dependence, the greater the possibility of instability, resulting from changing supply and demand conditions. In cases where the country's capacity to import is highly dependent on exports, fluctuations in exports mean that the country in question will also be confronted with instabilities in earnings of foreign exchange, which will have detrimental effects on capital accumulation and thereby on economic growth.

---

[30] Hirschmann, op.cit.

Singapore's dependence on entrepot trade for economic growth can be reduced to some extent through industrialization. In a situation where Singapore's foreign trade has been sluggish for a considerable period of time and the problem of unemployment has become acute, industrialization is undoubtedly an urgent and far-sighted policy. The progress of industrial development has been notable and it has contributed a high share of domestic exports to total exports. Apart from this, it has also affected the structure of employment; a relative shift of employment from the traditional sector to the modern sector taking place. Declines in retained imports in the period under review indicates that certain proportions of domestic demand, formerly filled by imports, has now been satisfied by domestic supply.

Since foreign trade has been sluggish for a considerable period of time, the source of growth in the period 1957-68 must have been generated by domestic investment. A multiple regression was used to estimate the multiplier effects of exports and domestic investment. The coefficients for exports and domestic investments as explanatory variables are respectively 0.35 and 3.5.[31] This means that an increase of one dollar in exports will lead to only 35 cents increase in G.N.P. while an increase of one dollar in investment expenditure will generate G.N.P. to grow more than threefold.

---

[31] The coefficients of the regression are as follows: $Y = \underset{(0.047)}{0.351}X_1 + \underset{(0.494)}{3.542}X_2$ where X_1 and X_2 represent respectively exports and domestic investment. Y is G.N.P.

In order to increase the level of savings, the unnecessary private consumption expenditure must be encouraged and curtailed. This will enable Singapore to reduce its dependence on foreign capital for domestic investment.

6. The Growth of Industrial Production

Industrialization has been regarded by the developing countries as the most promising means to achieve stability in foreign earnings and a high standard of living. However, it is often the case that after a few years of industrialization, the industrializing country finally discovers that the progress of the industrial sector has not been sufficiently large to offset the declining rate of growth of the agricultural sector. This is a result of expending too much effort in one area, to the detriment of agriculture. In fact, industrial expansion requires a concomitant growth of agriculture. Failure of the latter in keeping pace with industrial expansion will mean that there is insufficient demand for the manufactured goods arising from the agricultural sector. This will inevitably slow down the speed of expansion of the industrial sector. Moreover, insufficient response of agricultural supply to increases in demand for food and raw materials by the industrial sector will force imports of these two items putting further pressure on the balance of payments. It is therefore contended that the growth of the two sectors is necessarily interdependent; that is to say, the expansion

of the industrial sector will increase demand for agricultural products and promote the development of the agricultural sector, which in turn will provide a potential market for industrial goods. However, to what extent is this in fact true in Singapore, where agriculture forms only a small part of economic activity. Apparently, the agricultural sector cannot provide a substantial market for industrial expansion, and thus industrial growth must depend on foreign markets, which can only be expanded through export promotion. We are of course aware that the greater the contribution of agriculture, the lesser will be Singapore's dependence on imports of foodstuffs. Thus some foreign exchange can be saved for importing raw materials and capital equipment for industrial usage.

The trend of industrial production in this period was consistent with the general pattern of production in the initial stage of industrialization, i.e. industrial development usually begins with the production of consumer goods.

Industries with high rates of growth in this period were food, beverage and tobacco, wood products, textile (including footwear and leather products) chemical and chemical products, basic metal products and transport equipment. The ratio of growth of food production in the period 1966-67 was higher than anticipated. Chemical products have also shown a rapid rate of expansion in 1965-68. There is, however, no

sign, indicating that the country will shift from the production of consumer goods to capital goods in the near future.

The problem of food shortage in Singapore cannot be solved entirely through import substitution. As indicated in Table 3.8, after a period of industrialization, production of foods has increased substantially. In 1959, it was valued at only $69 million but it doubled by 1965 and, by 1968 the value had increased to more than $350 million, or 5 times the amount in 1959. The total consumption of foodstuffs in 1967 and 1968 was $850 and $880 million respectively, of which less than half was supplied by domestic production. Per capita consumption was about $430 in 1967. The annual average rate of growth of consumption was approximately 4.7 percent in 1964-68, while industrial production of food (processing) in the same period increased at a rate greater than 27 percent. With this progress, total value retained from imports for consumption is expected to decline and simultaneously reduce the gap between domestic consumption and production.

Comparing the total output of the manufacturing and rubber processing industries, disparities in growth can be observed. The annual average growth rate of the former was 21 percent in the period 1960-68, while in the latter the rate of growth was very irregular, presumably the

TABLE 3.8

INDUSTRIAL PRODUCTION, 1959-68

(Firms with 10 or more workers)

($ million)

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Food	69.3	75.3	79.4	86.7	116.5	122.5	155.0	180.5	325.6	357.2
Beverage & Tobacco	55.5	78.2	84.1	96.9	102.3	112.8	127.9	139.2	147.4	146.0
Wood prod.incl.furn.	29.9	39.5	39.4	39.9	58.8	66.5	76.7	98.1	103.9	149.9
Paper & paper prod.	4.5	5.2	6.5	6.1	6.3	7.3	10.8	14.3	17.8	26.2
Printing,publishing & allied industries	38.1	42.7	46.2	49.4	53.3	56.6	61.8	65.5	68.5	68.5
Textiles,footwear, leather prod.	9.5	15.2	14.7	13.1	21.2	41.2	47.6	59.8	75.2	121.8
Rubber prod,excl. processing	17.2	18.2	13.6	11.5	14.8	15.1	21.8	28.0	28.7	34.8
Chemicals & chem.prod. incl.pro.of petr.&coal	56.1	63.6	62.3	186.9	223.1	257.7	261.0	356.8	479.2	690.9
Non-metallic min.prod.	19.6	17.4	29.9	35.6	61.6	51.1	51.1	61.1	59.1	74.1
Basic metal prod. excl.machinery	29.7	35.3	58.6	49.4	66.9	93.1	121.4	138.9	151.7	190.2
Machinery,excl.elect.	13.5	16.8	18.6	16.3	15.8	14.6	20.0	25.7	30.3	41.6
Elect.mach.,apparatus	19.4	17.1	17.8	14.4	21.0	19.6	25.5	33.4	42.2	53.2
Transp.equipment	28.1	31.7	34.4	39.9	49.4	58.1	67.7	79.4	93.5	135.5
Misc.manuf.ind.	8.5	9.4	12.9	14.2	32.8	31.7	38.1	45.1	64.3	85.8
Total manufacturing	398.9	465.6	518.4	660.3	843.8	927.9	1086.4	1325.8	1687.2	2175.7
Rubber processing	1186.8	1195.9	891.7	1074.2	740.6	608.1	591.4	646.5	558.7	619.4
Total manuf.&rubber proc.	1585.7	1661.5	1410.1	1734.5	1584.4	1536.0	1677.8	1972.3	2245.9	2795.1

Source: 1) Report on Census of Industrial Production,1959-65; 2) EDB Annual Report, 1968

result of price fluctuations, as has been discussed earlier.* One can see from Table 3.9 that the annual average growth rate for the rubber processing industry in the same period was negative. It is also interesting to note that labour productivity in the manufacturing industry is higher than in the rubber processing industry.

TABLE 3.9 - Growth of Industrial Production, 1959-68

	Manufacturing		Processing	
Years	Output (%)	Gross Value Added (%)	Output (%)	Gross Value Added (%)
1960	16.7	1.9	0.8	200.9
1961	11.3	22.7	-25.4	-41.2
1962	27.4	15.1	20.5	37.5
1963	27.8	25.4	-31.0	- 2.9
1964	10.0	12.6	-17.9	-38.2
1965	17.1	22.4	- 2.7	-34.5
1966	22.0	19.8	9.3	17.5
1967	27.3	12.4	-13.6	48.4
1968	28.9	31.8	10.9	14.2
60-68	20.9	18.2	- 5.5	22.4

Source: (1) Report on the Census of Industrial Production, Department of Statistics.
(2) Economic Development Board Annual Report, 1968.

* Manufacturing industries are defined as establishments engaged in the manufacturing of goods, i.e. by the transformation of raw materials into finished products. Processing industries are referred to those industries engaged mainly in the transformation of basic materials into semi-finished form or articles which did not result from transformation of raw materials. For detailed definitions, see Census of Industrial Production, Department of Statistics. For convenience, rubber processing industry is excluded from other processing industries.

Labour productivity can be raised either by improving the quality of labour through better training, education, health, nutrition etc... or by employing better tools and equipment. Differential productivities in the manufacturing and in the processing industries can be explained by the different techniques used in production. In the processing industry, relatively labour-intensive techniques are usually used and therefore labour productivity is low. In the manufacturing industry, labour productivities were increasing during 1960-68 while in the rubber processing industry, the labour productivity, strictly speaking, was declining. (See Table 3.10) It is believed that the prolonged decline in the price of rubber might have been the main factor that discouraged new physical investment in the processing industry thus causing labour productivities to decline. Unfortunately, capital statistics for these industries are not available for detailed comparison.

In contrast to its high percentage of total output, the rubber processing industry has a low percentage of value added as compared with that of the manufacturing industry. In 1959, the value of output in the manufacturing industry accounted for only 25 percent of the total industrial output, but it accounted for more than 90 percent of the value added. In more recent years, over 90 percent of the value added has consistently been contributed by the manufacturing industry.

TABLE 3.10

OUTPUT AND LABOUR PRODUCTIVITY IN MANUFACTURING INDUSTRIES,* 1959-68

(Establishments engaging 10 or more workers)

	MANUFACTURING						RUBBER PROCESSING					
	No. of Workers	Input	Output	Gross Value Added	Net Value Added	Labour Prod. ($1000)	No. of Workers	Input	Output	Gross Value Added	Net Value Added	Labour Prod. ($1000)
1959	25,607	256.1	398.9	142.8	122.6	4.78	5,615	1172.6	1186.7	14.3	11.3	2.01
1960	27,416	320.1	465.6	145.5	119.1	4.34	5,484	1152.9	1195.9	43.0	40.8	7.43
1961	27,562	339.8	518.4	178.6	152.8	5.54	5,545	866.4	891.7	25.3	22.6	4.07
1962	28,642	454.7	660.3	205.6	170.3	5.94	6,057	1039.4	1074.2	34.8	31.2	5.15
1963	36,586	586.0	843.8	257.8	206.7	5.65	5,545	706.9	740.7	33.8	29.2	5.26
1964	41,488	637.7	927.9	290.2	231.3	5.58	3,690	587.2	608.1	20.9	18.6	5.04
1965	47,334	731.1	1086.4	355.3	277.4	5.86	3,387	577.7	591.4	13.7	10.7	3.15
1966	52,807	900.0	1325.8	425.8	320.9	6.07	3,527	630.4	646.5	16.1	13.0	3.68
1967	58,347	1208.6	1687.2	478.6	363.9	6.23	3.762	534.8	558.7	23.9	20.1	5.34
1968	74,833	1545.0	2175.7	630.7	475.7	6.35	4,385	592.1	619.4	27.3	21.4	4.88

*Excluding quarrying industry.

Source: 1) Report on Census of Industrial Production, 1959-65
2) Monthly Digest of Statistics
3) EDB Annual Report, 1968 (Appendix 1B)

TABLE 3.11

DISTRIBUTION OF INDUSTRIAL PRODUCTION 1959-68

	OUTPUT %		VALUE ADDED %	
	Manufacturing	Rubber Processing	Manufacturing	Rubber Processing
1959	25.2	74.8	90.9	9.1
1960	28.0	72.0	77.2	22.8
1961	36.8	63.2	87.6	12.4
1962	38.1	61.9	85.5	14.5
1963	53.3	46.7	88.4	11.6
1964	60.4	39.6	93.3	6.7
1965	64.8	35.2	90.3	3.7
1966	67.2	32.8	96.4	3.6
1967	75.1	24.9	95.2	4.8
1968	77.8	22.2	95.9	4.1

Source: Calculation based on Table 3.10

A high proportion of value added in the manufacturing industry implies that it has become important in terms of its cost contribution to the growth of national output.

7. Changes in the Structure of Employment

The problem of unemployment in Singapore has long been in existence. It first became severe in the last decade resulting from the rapid growth of the labour force and the low rate of job creation. The immediate measures taken by the present government to cope with this problem when it took office in 1959 were birth control, immigration restriction and, most important of all, industrialization.

The 1957 census revealed that approximately 15 percent of the total economically active population were engaged in activities related to entrepot trade.[32] and 14 percent were directly employed in the manufacturing sector. (See Table 3.12) The agricultural sector provided less than 9 percent of total employment. Although employment opportunities in the manufacturing sector had been increased by 5 percent during 1957-66, it was still low as compared with the growth rate of the labour force. In 1966, the share of the agricultural sector in total employment dropped drastically from 8.5 percent in 1957 to 3.5 percent in 1966. The share of employment in the commercial and transport and

---

[32] The State of Singapore Development Plan, 1961-64, Ministry of Finance.

TABLE 3.12

ECONOMICALLY ACTIVE POPULATION BY INDUSTRY

(Age 10 and over)

	1957		1966	
	Person	%	Person	%
Agriculture, Forestry, Hunting & Fishing	40,151	8.5	19,197	3.5
Mining & Quarrying	1,601	0.3	1,403	0.3
Manufacturing	66,754	14.2	104,478	19.2
Construction	24,628	5.2	34,602	6.3
Electricity, Gas, Water & Sanitary Services	5,624	1.2	7,525	1.4
Commerce	121,533	25.8	128,714	23.6
Transport, Storage & Communications	50,347	10.7	52,824	9.7
Services	159,184	33.7	194,195	35.7
Activities not adequately described	2,096	0.4	1,470	0.3
TOTAL	471,918	100.0	544,408	100.0

Source: 1) Yearbook of Labour Statistics, 1966 (Int.Labour Ofc., Geneva
2) Singapore Sample Household Survey,1966(Ministry of Nat.Development & Economic Research Centre, University of Singapore, 1966

communications sectors also declined. The increase of employment in the manufacturing sector was thereby offset by the decline of employment in the other sectors, culminating in a rise in the level of unemployment from 6.2 percent in 1957 to 7.4 percent in 1966.

The average growth rate of employment in the manufacturing industry rose 13 percent per annum in the period 1959-68 while the growth of employment in the rubber processing industry was negative for the same period. (See Table 3.13) The rate of growth of value-added was greater than that of the employment in the manufacturing industry. This was also found to be true in the processing industry, which indicates that the rise in value-added can be mainly attributed to the growth of labour productivity. It is difficult to project the future trend of employment with respect to output in the manufacturing sector. But by using employment elasticity, we can measure the degree of responsiveness of employment to changes in output. The elasticity was found to be 0.67, which is considered quite low.[33] This means that a rise of 100 percent in output will only lead to a 67 percent increase in employment.

---

[33] $E_m = \frac{dL}{L} \div \frac{dy}{Y} = \frac{dL}{dy} \times \frac{Y}{L}$

where E_m = elasticity of employment
Y = output
L = employment

TABLE 3.13

EMPLOYMENT IN MANUFACTURING & PROCESSING INDUSTRIES, 1959-68

	MANUFACTURING		RUBBER PROCESSING	
	Persons (Thousand)	Rate of Growth	Persons (Thousand)	Rate of Growth
1959	25.6	-	5.6	-
1960	27.4	7.0	5.5	-0.9
1961	27.6	0.7	5.5	0
1962	28.6	3.6	6.1	-10.9
1963	36.6	28.0	5.5	-10.9
1964	41.5	13.3	3.7	-32.7
1965	47.3	14.0	3.4	- 8.1
1966	52.8	11.6	3.5	2.9
1967	58.3	10.4	3.8	8.6
1968	74.8	28.3	4.4	15.8
59-68	-	13.0	-	- 1.6

Source: From Table 3.10

The actual level of unemployment in Singapore was estimated to be high for the period under study. Statistics of unemployment can be obtained from three different sources: (i) National Registration data; (ii) Sample Household Survey, and (iii) employment exchange records. Statistics from the latter source should not be considered as reliable since they also include those persons who are employed at the time of registration but who are looking for a better job. Statistics taken from National Registration data reveal that there was approximately 7.4 percent of the total economically active labour force unemployed in 1966.[34] However, the Sample Household Survey reveals the unemployment figure to be 9 percent for the same period. (See Table 3.12)

It is estimated that the labour force will increase at the rate of 3 percent a year, approximately one percent higher than the rate of growth of employment in 1957-66. In order to reduce the rate of unemployment substantially, greater effort has to be made now to create new employment opportunities.

8. Exports of Manufactured Products

Total value of exporting domestically manufactured goods increased more than threefold for the period 1960-68. It rose from $164 million in 1960 to $599 million in 1968; but value of exports did not increase proportionally with

---

[34] Goh Keng Swee, Two Years of Economic Progress, Ministry of Culture, 1968.

total sales. The total value exported in 1968 accounted for 28 percent of total sales as compared with 36 percent in 1960, a decline of 8 percent.

TABLE 3.14 - Value of Exports of Manufactured Products,1960-68

Year	Direct Exports ($ million)	As % of Total Sale
1960	164.3	36.0
1961	179.1	34.4
1962	217.5	32.7
1963	223.8	26.7
1964	266.4	29.1
1965	349.2	32.5
1966	405.0	31.0
1967	508.0	30.0
1968	599.0	28.0

Source: (1) Report on the Census of Industrial Production 1960-65
(2) Economic Development Board Annual Report, 1968.

As has been pointed out, the manufacturing sector has become increasingly important in terms of its share of G.D.P. and total employment. However, there are barriers to development in this sector, one of which is the small size of the domestic market. It is believed that when a certain stage of development is reached, the import-substituting

industries may find that the domestic market is not expanding fast enough to absorb their growing output. If high rates of growth are to be maintained, foreign markets must be explored and enlarged through export expansion. The task for seeking wider markets should not be left entirely to the individual industries for the extension of market can, in most cases, only be achieved through governmental negotiations or by bilateral agreements.

It is possible that a relative decline in the export of manufactured goods may slow down the speed of industrial development if there is not a compensating increase in domestic demand. In addition, it is essential to reduce the degree of dependence on primary exports because of the potential for violent price fluctuations. It is possible to diversify exports through encouragement of producers of export commodities. In the context of the need for greater export promotion and the small size of the domestic market, it would appear that emphasis should be placed on the export-oriented industries rather than those which rely heavily on the domestic market. It may be the case that some industries in Singapore were established with government assistance, or under high tariff protection. Usually the costs of establishing these industries are borne by the consumers in the form of increased prices. The consumers' burden will be greater the longer the period of time required for tariff protection.

Therefore, the period of protection should not be unreasonably long. A relatively short period of protection will encourage the industry in question to improve its process of production and force it to allocate its resources in the most efficient manner so that it may become competitive by the time it loses its preferential status. However, minimum economic plants vary with the nature of the industry, some requiring a longer period of time than the others to attain economics of scale. This is dependent to a large extent on the size of the market and on the technique and method of production. It is therefore suggested that the government should adopt a flexible policy towards the time to be allocated for tax holidays and tariffs protection, evaluating each case on its own merits rather than setting fixed periods for all industries.

Incentives should be provided in order to encourage export-oriented industries. It is important that the government discriminate in giving subsidies in order that it not provide undue support to those industries which are basically inward-looking. On the other hand, if potential markets exist both internally and externally for certain types of industry, and if assistance is required to get these industries established, the government should not hesitate to help so long as there are reasons to believe that they will become competitive in the long run.

It must be stressed that in order to avoid unnecessary heavy industrial commitments, the government should

encourage private participations and concentrate its attention more in the area of promotional activities which stimulate industrial and export expansion.

CHAPTER IV

THE BALANCE OF PAYMENTS AND DEMAND FOR IMPORTS

1. The Terms of Trade

Singapore's capacity to import depends not only on her export earnings, but also to a large extent on her ability to attract foreign capital. Since international trade is the only major source of foreign exchange earnings, changes in the terms of trade and/or the volume of exports will have a substantial effect on Singapore's import potential.

Improvements in the net barter terms of trade for 1958-60, as Table 4.1 indicates, can mainly be attributed to a short period of soaring rubber prices. The net barter terms of trade began to deteriorate seriously after 1964. In the period 1958-62, both the net barter terms of trade and the income term of trade indexes[40] show a similar trend indicating a general improvement in the overall terms of trade. However,

---

[40] It is believed that the net barter terms of trade serve no better than the income terms of trade as an indicator of the capacity to import and welfare changes. See G. Haberler, "Terms of Trade and Economic Development" in H.S. Ellis (ed) Economic Development for Latin America. (New York: 1961) p 279

the results, measured by the above two indexes, diverged slightly in the period 1963-68. After a drastic deterioration in 1964-66, the income terms of trade showed a substantial improvement and became steadily more favourable from 1967 onwards.

TABLE 4.1 TERMS OF TRADE, 1958-68 [41]

(1962=100)

Year	Price Index		Value of Exports Index	Net Barter Terms of Trade	Income Terms of Trade
	Exports	Imports			
1958	103.7	140.1	91.9	76.6	65.6
1959	125.0	168.9	99.5	74.0	58.9
1960	133.7	134.1	101.8	99.7	75.9
1961	101.2	105.3	96.8	96.1	91.9
1962	100.6	100.0	100.0	100.0	100.0
1963	97.0	98.9	101.7	98.1	102.8
1964	99.3	98.0	81.1	101.3	82.8
1965	99.7	108.7	87.9	91.7	86.0
1966	97.5	102.8	98.7	94.8	96.0
1967	87.7	99.6	102.4	88.0	102.8
1968	83.6	95.0	113.9	88.0	119.9

Source: Calculation based on statistics provided by the Yearbook of Trade Statistics, U.N., (Various years)

[41] Prices indexes for both exports and imports included only 40-60 percent of the total value exported and imported and therefore should not be regarded as accurate.

It appears that the future trends of the net barter terms and the income terms of trade are more subject to changes in the price and volume of exports of principal products than changes in import price indexes.

2. Balance of Payments

The persistent deficit on visible trade balance is one of the most striking features of Singapore's balance of payments during the period 1960-68. The excess of imports over exports has tended to widen the gap in the visible trade balance. There was a modest improvement of the current account in 1960-66, but even this was subject to a large degree of fluctuation. The surplus in invisible trade has increased rapidly, and by 1968 its value had doubled compared to 1960. In spite of this, the limited expansion of exports has imposed a further pressure on the current account balance. Industrial Protective tariffs and restrictions on the imports of certain commodities in the period 1960-68 seems to have had very little effect on total imports. However, the effort might have been offset somewhat by the increased demand for imports of capital goods due to rapid industrial expansion.

The rapid growth of imports in 1967-68, underlying the worsening situation in visible trade balance, placed pressure on the current balance. It can be seen from Table 4.2 that the deficits in the visible trade balance fluctuated for most of the period between $500-700 million and then

TABLE 4.2

BALANCE OF PAYMENTS, 1960-68

($ million)

	1960	1961	1962	1963	1964	1965	1966	1967	1968
I CURRENT ACCOUNT									
A Merchandise Trade Export (f.o.b.)	2918	2750	2860	3291	2601	2810	3168	3239	3589
Import (f.o.b.)	3451	3358	3431	3995	3252	3570	3825	4149	4743
Balance	-533	-608	-571	-704	-651	-760	-657	-910	-1154
B Net Invisible Trade	337	359	395	404	558	659	705	722	735
C Net Transfer Payments	-48	-30	-23	-32	-73	-49	-45	-39	-41
Balance (B-C)	289	329	372	372	485	610	660	683	694
Net Balance of Current Account	-244	-279	-199	-332	-166	-150	3	-227	-476
II CAPITAL ACCOUNT									
Net Non-Monetary Capital Movements	14	14	26	41	22	87	51	113	271
Net Monetary Movement	-105	-15	-191	-81	90	32	-189	-359	-548
Net Balance of Capital Account	-91	-1	-165	-40	112	119	-138	-246	-277
Net Errors & Omissions	335	280	364	372	54	31	135	473	753

Source: 1) Yearbook of Statistics, 1967,1968;
2) IMF Balance of Payment Yearbook,Vol20,March 1969 and Vol.21, March 1970

leapt to more than $900 million in 1967-68. This suggests the growth of imports was not accompanied by a sufficient rate of growth of exports. In spite of the persistent deficit on visible trade balance, no serious foreign exchange problem arose because the deficit was offset by the net surplus of invisible trade and inflow of capital. Only in 1966 did Singapore enjoy a slight net surplus on current account.

The second striking feature of Singapore's balance of payments is the significant position of invisible trade. The net surplus of invisible trade, which is derived mainly from tourism, interest earned from foreign assets and expenditures spent by the British government on maintaining its military bases, has helped to ease the situation created by the deficit on the visible trade balance. However, no marked increase of invisible trade can be expected in the near future as a result of the British government's decision to withdraw its forces. In addition, it appears that the loss resulting from the withdrawal will not be offset even if there is a substantial increase in receipts, from tourism and foreign assets and a corresponding decrease in imports.

Inflows of private long term capital, induced probably by industrial incentives during the period 1960-68, strengthened the foreign exchange position, except in 1964-65, where a deficit on the current account was filled by foreign reserves.

Inability in earning sufficient foreign exchange is one of the most serious problems hindering economic progress in the developing countries. External borrowing and foreign aid have therefore become more important than government transfers in meeting the dificit in the balance of payments. It is only the exceptional country which can enjoy rapid economic growth without having, at the same time, rising imports. However, Singapore has been fortunate in that the inflow of foreign capital has provided sufficient foreign exchange for the imports required by industry.

A slow rate of growth of exports has increased the degree of Singapore's dependence on foreign capital. It is always feared that capital inflow and export proceeds in the near future will not grow sufficiently to offset the effects resulting from the British military withdrawal. If, however, the future terms of trade remain reasonably stable, an increase in the volume of exports can be expected to alleviate the difficulty.

3. The Capacity to Import and the Demand for Imports

As mentioned above, rarely does a developing country enjoy sustained economic growth without import expansion. As Patel puts it;[42] "The process of development inevitably sets in motion a growing demand for imports. A rising level of

---

[42] G. Patel, "Trade and Prospect Policy for a Developing Economy" in Harrod and Roy, ed., International Trade Theory in a Developing World. (New York: St-Martin's Press, 1965)

production and investment cannot be sustained without a steady increase in the demand for machinery, raw materials and consumer goods." It is therefore reasonable to assume that Singapore's imports provide a large proportion of her capital goods and food requirements, especially in the light of population and industrial growth.

The capacity to import at any given period of time depends largely on the size of export earnings and capital inflow. It should be noted that the magnitude of a country's capacity to import is subject to changes in the terms of trade.[43] As mentioned earlier, international trade in Singapore plays a major role in earning foreign exchange; therefore a deterioration in the terms of trade will substantially impair her capacity to import.

Improvements in the capacity to import for the period 1960-68 (as Table 4.3 suggests) were significant. This can be attributed mainly to the rise in the volume of exports and a larger inflow of capital. Singapore's capacity to import, expressed in index form, doubled in this period. It rose from 74 percent in 1960 to 147 percent in 1968, using 1962 as base year. The decline in the capacity to import in

---

[43] The capacity to import is defined as follows:

$$C = \frac{1}{P_m}(x+Z+K)$$

Where C denotes capacity to import; X the value of exports of goods and services; Z and K respectively the net factor payment abroad and net capital inflow. P_m represents import price index. For detailed discussion see Maizels,A;Exports and Economic Growth of Developing Countries, (Cambridge University Press, 1968) pp 150-162

1964-65 was chiefly due to the fall in the value of exports resulting from Indonesia's trade embargo.

TABLE 4.3 INDEX OF CAPACITY TO IMPORT 1960-68

Year	Indexes(1962=100)
1960	73.7
1961	90.1
1962	100.0
1963	114.5
1964	98.2
1965	99.3
1966	115.9
1967	124.0
1968	146.9

Source: From Table 4.2

The problem of exhausting foreign exchange earnings by the importation of unnecessary consumer goods is common to most developing countries. This results in a worsening of the balance of payments situation and leads to a further reduction in the requisite imports of capital goods and raw materials. It is generally assumed that there exists a fairly close relationship between fixed capital investment and the capacity to import. This relationship has been proven

to be true by Maizels in at least eight of the developing countries in the Sterling Area.

The difference in the marginal propensity to import of different commodity groupings has important implications for Singapore's economic policy. As expected, the industrialization push has resulted in a high marginal propensity to import for machinery, transport equipment and manufactured goods. A high propensity to import implies, of course, large leakages in income generation. The foodstuffs, chemical and miscellaneous manufactured articles groups also show a relatively high propensity to import.

TABLE 4.4 MARGINAL PROPENSITIES TO IMPORT BY COMMODITY GROUPS*

	Propensities to Import
0 Food and live animals	0.053
1 Beverage and Tobacco	-0.004
2 Crude Materials (inedible)	-0.531
3 Mineral Fuels & related materials	0.014
4 Animal & vegetable oils & fats	0.013
5 Chemicals	0.063
6 Manufactured goods	0.193
7 Machinery & transport equipment	0.216
8 Miscellaneous manufactured articles	0.092
9 Commodities & transactions	0.003
TOTAL IMPORTS	0.037

Source: From Table 1 (appendix)
* Observation period 1957-68

In spite of the rapid increase in domestic food production in recent years, a large proportion of food consumption derives from retained imports. Even if strategic measures were implemented to accelerate the level of food production, supplies would still be inadequate to meet total domestic requirements because not all necessary foodstuffs can be produced or processed locally. Although reliance on foreign supplies of foodstuffs can be reduced to a considerable extent, it cannot be totally eliminated. A high dependence on imports of food has some significant implications: it not only enlarges the deficit in the invisible trade balance, but it also absorbs a large proportion of export earnings which could otherwise be used more productively for other purposes.

The propensities to import for manufactured goods and machinery and transport equipment provide a general guide for making predictions abour future trends of imports of imports of these commodity groups. However, it is difficult to make accurate predictions because not all imported goods in the period under review were consumed domestically. A large proportion of certain commodities in groups 2 and 3 were imported for re-export. Nevertheless, if some items in commodity groups 7 and 8 can be produced domestically, a downward shift of the propensity coefficient is likely to occur when the actual import-substitution policy takes place.

Low propensities to import are observed for minerals and animal and vegetable oils and fats. It is interesting to note that both the beverage and tobacco and crude materials groups have a negative propensity coefficient. Examination suggests that the former has experienced import-substitution effect and the latter has experienced deteriorating prices.

CHAPTER V

SUMMARY AND CONCLUSION

Sources of Growth

Economic performance in Singapore was impressive in the period under review. The rate of progress, measured in terms of the growth of national output or national income, has been remarkably high. As a result, the people of Singapore continue to enjoy a standard of living which is among the highest in Asia. The decline in the rate of population growth helped to accelerate the rate of growth of per capita G.N.P. The main impetus behind Singapore's economic growth has been the rapid rate of expansion in the manufacturing industry and the increase in domestic demand. The dynamic progress in the manufacturing industry suggests that it will remain as the main sector responsible for structural change and additional employment opportunities.

Although the export sector performed rather poorly, due to the unstable world demand condition for primary products, and the prolonged decline of the price of rubber, it still remains the greatest source of external earnings.

International trade has been of significant importance to Singapore, serving as its engine of growth in the past. The rapid expansion of international trade in previous years has had considerable stimulating effects on the transport and communication system, credit and banking development, and other economic activities which currently provide a sound foundation for Singapore's industrialization. In addition, it also created foreign markets for locally produced products. In view of these considerations, there can be little doubt that international trade will continue to be a major force in Singapore's economic affairs.

Some Limitations in International Trade

The expansion of the export sector is directly related to such variables as world demand conditions and the economic policies of neighbouring countries. Depression in the export sector during this period can be attributed to the lack of diversification, promotional incentives and direct government support. The need for export promotion to create new foreign markets and expand exciting ones is not only crucial to industrial development, but also important in the drive to maximize foreign exchange earnings. It is necessary for Singapore's program of export diversification that a wider range of products be produced and processed. This will help lessen the instability inherent in, and the degree of dependence on traditional exports.

The change of the composition of imports was striking and relates directly to the change in the pattern and growth of manufacturing production. The decline of imports of certain commodity groups was also evident, indicating that a certain proportion of the demand for these commodities has now been filled by domestic production. Although the progress of domestic food production via import substitution has been remarkable, the problem of food shortage still remains. It is expected that when the scope of import substitution is extended, retained imports of general consumption goods will continue to decline with respect to total output, and the share of imports of raw materials and capital goods will rise further. Due to the low level of savings and sluggishness of export earnings in this period, a large proportion of imports of raw materials and capital goods was financed by the inflow of foreign capital. It is likely that in the near future, Singapore will continue to depend on capital inflow to provide the necessary foreign exchange for her increased import requirements.

A rapid rise in the share of domestic products to total exports was observed for 1961-65, but after this period the trend fell off. Thus, if barriers to trade are not removed, expansion in the export sector, even if stimulated by increased exports of locally manufactured products, will not

be substantial. However, fluctuations will be lessened if the prices of primary products remain stable and the export sector diversifies.

The differential rates of growth between the export and import sectors has aggravated the problem of deficit in the merchandise trade balance. Fortunately, the inflow of capital and the net surplus in invisible trade balance for this period were large enough to fill the widening gap. It is sometimes argued that higher rate of growth in exports can only be achieved through a sufficient diversification of the export structure. The lack of external stimulus is one of the important factors that caused stagnation in exports. In view of this,domestic export incentives should be provided. However, exports can also be promoted by a variety of other measures, such as innovating, reorganization and improvements in the methods of grading, processing and preservation in the entrepot sector. This will raise quality, minimize costs and enlarge value added. However, it should be borne in mind that introduction of modern techniques and new equipment is a slow and costly process which may be held back by the lack of trained and skilled labour. Moreover, the lack of external stimulus and the uncertainty of demand conditions may also prevent innovations and improvements from taking place. Therefore, the need of government support is crucial in bringing about the necessary changes and improvements.

Although the value of entrepot trade increased in absolute terms, its share of total exports has been declining over time. Due to the lack of detailed data, it is rather difficult to ascertain the extent which this relative shrinkage has accentuated the unemployment problem in this and related sector. Nevertheless, it is reasonable to assume that since this sector employed relatively labour-intensive production techniques, any contraction in output would release relatively more labour than capital. Thus, it is suggested that entrepot trade, in view of its importance in providing employment opportunities and foreign exchange earnings, should receive more attention and protection. Prior to 1959, entrepot trade enjoyed a great degree of freedom from custom duties, except in the case of luxury commodities, such as tobacco, alcoholic beverages and petroleum products. In recent years, protective tariffs have been extended to a wider range of commodities. As a result, a protective tariff policy should not be applied without careful evaluation of its potential effects or it may impair entrepot trade to the extent that the gain in both employment and production in the protected industries may not be sufficient to offset the loss in the entrepot sector.

Industrial Growth

The government's economic policies in this period have had considerable influence in shaping the pattern of

industrial development and economic growth. The progress in the manufacturing sector, as has been discussed in Chapter III, has been remarkable in terms of employment opportunities created and value-added. However, the expansion has been notable, particularly in those industries whose products are not confined to the domestic market. These industries are petroleum products, food processing, wood, metal and non-metallic products, and they can be classified as the dynamic industries.

A relative shift of employment from the agricultural and trade and commerce sector, to the manufacturing sector was also recorded. In comparing value added in the manufacturing industry with that of the rubber processing industry, it seems reasonable to conclude that, since the value added in the former is high, the source of growth generated from this sector will tend to be greater. The increased value-added in the manufacturing industries was due mainly to improvements in labour productivity.

It is rather fortunate that Singapore, with a limited domestic market, has been able to induce a sufficiently large amount of foreign capital to finance the increased investment and import requirements. In a small country, foreign capital plays a significant role and usually constitutes a large proportion of domestic investment. There are at least three main reasons why Singapore has relied heavily on foreign capital for domestic investment. First of all, there was low marginal

propensity to save in the period under review. Secondly, there have been difficulties in expanding export earnings. Thirdly, foreign financial participation is essential in certain lines of production where technical and managerial skills are not domestically available and therefore are imported along with the foreign capital. In order to increase the marginal propensity to save, some unnecessary consumption expenditures should be curtailed. This can be done through taxation and the restriction of certain imports. A high ratio of saving is necessary, because by the time the process of import substitution is exhausted, the inflow of capital will tend to decline and the burden of new investment has to be borne by domestic saving.

Foreign Trade vs Import-Substitution

It is generally recognized that the growth of income of a small country is greatly dependent on export expansion. There are some basic advantages which foreign trade yields to a country. First, it permits efficient use of productive resources. Second,it provides foreign exchange for imports of raw materials, foodstuffs and capital goods for development purposes. Third, trade promotes the exchange of ideas and the dissemination and transmission of technical knowledge, skills and entrepreneureship.[44] Fourth, trade permits output and employment to expand and induces foreign investment.

---

[44] This point is from Heberler: "International Trade and Economic Development" in Weckstein, R.S. (ed) Expansion of World Trade and Growth of National Economies,(London, 1968)

Stagnation in the export sector, which is highly dependent on imported goods, is often a cogent argument for import substitution. The hypothesis that industrial development via import substitution will automatically solve the acute problem of unemployment and lift the standard of living is not indisputable. First, the size of domestic market is generally limited and it has to face competition from imported goods. This results in the problem of "economies of scale". Second, due to heavy competition from abroad, the country in question has to adopt an "inward looking" policy, resulting in firms operating under high protective tariffs, which may cause inefficiency in the allocation of existing resources.[45] But economists who advocate industrialization via import substitution are inclined to think that an expansion of one industry will tend to induce other industries to expand through income and expenditure effects; or, the expansion of a few industries simultaneously will create a sufficient market for themselves through complementary effects. Nurkse and Rosenstein-Rodan are of this opinion. This argument seems to be sound for interdependence of one industry upon the others will assure more certainty and stability in demand conditions than industries which depend on external demand conditions and

---

[45] Nurkse, R., Pattern of Trade and Development, (Stockholm, 1959) and N.Rosenstein-Rodan, "Notes on the Theory of 'Big Push'" in Meier ed., Leading Issues in Economic Development: Studies in International Poverty, Oxford University Press, 1970.

foreign markets for their products. Moreover, external demand conditions are often subject to unforeseen fluctuations and foreign markets are not automatically guaranteed. This may result in a discouragement of industrial investment. In the later stages of development, with the expansion of the domestic market and increases in productivity, it will not only become easier for the industries to compete domestically but also possible to expand exports to foreign markets, whereby further "economies of scale" can be reaped.

The scope of import substitution in a small country is limited, although the domestic market can be enlarged to some extent, under a high tariff wall. But tariff protection is not an optimal policy if there exists some distortion in the country due to external diseconomies and/or factor immobility.[46] It is also argued that the expanded manufacturing sector will tend to import more advanced production techniques and recruit highly skilled labourers, which may lead to the problem of dualism. By dualism is meant that there exists different types of productive techniques and factor ratios which result in inequality in productivity in two or more sectors in the economy. However, in a small country, the problem of dualism will not be as serious as it would be in a large country since it can be more quickly eliminated through diffusion of technology and rapid growth.

---

[46] For this argument, see Bhagwadi, Jogdish: "Domestic Distortions, Tariffs and the Theory of Optimum Subsidy," Journal of Political Economy, February, 1963.

In Singapore, perhaps, the most important reason for industrialization is the lack of alternative strategies. Slow expansion in the export sector, high dependence on imported goods and an acute unemployment problem are the reasons that make industrialization essential. But the policy of import substitution must not be applied without precaution for it may lead to misallocation of productive resources. As Johnson puts it:

> '...The pursuit of import-substitution as an object can result in extremely expensive misallocation of resources, the costs of which to the economy are not readily apparent, and the effects of the protective policies used to encourage import-substitution on market structure and competitive conditions may be contrary to what is required for the establishment of self-sustaining growth." [47]

Perhaps the most serious problem that Singapore will encounter in the process of implementing an import-substitution policy is that of smallness of size of the domestic market. The separation from Malaysia and the imposition of custom duties on Singapore's goods by the former have undoubtedly aggravated the problem of smallness. Had the barriers of trade between the two countries been removed, a greater amount of foreign capital would have been induced and the scope for industrial expansion would have

---

[47] H.G. Johnson, "Fiscal Policy and the Balance of Payment in a Growing Economy", Malaya Economic Review, 1964.

been wider than is now the case. If the "minimum economies of scale" can be attained, it should be possible for the manufacturing industry to take root. However, industrial expansion requires the simultaneous expansion of exports. In the case of Singapore, expansion of exports is the only solution to smallness and access to foreign exchange for the import of capital goods is imperative if the expansion of industrial investment is to continue.

Export Promotion

It should be borne in mind that the conditions of economic development of a small country are quite different from that of a large country. In a small country, natural resources are more skewed; therefore, in considering the problem of economic development of a small country, special economic considerations must be taken into account. In a large country, industrial development can easily be based on import substitution, while in a small country, import substitution is limited by the size of market, and which can only be expanded through international trade. As Demas argues: "...the role of exports (of a small country) is much more that of a leading sector in the sense that the rate of growtn of G.N.P. is tied much more closely to the rate of growth of external demand which causes the economy to move."[48] Although the present industrial policy has been successful

---

[48] Demas, op.cit., p 48.

in achieving high rate of growth in the manufacturing sector, the share of industrial products in total exports has not grown satisfactorily. A wider variety of incentives should be offered in promoting manufactured exports.

It is sometimes feared that when the process of import substitution is exhausted, the speed of industrial development will slow down or even cease to expand. Foreign markets can be expanded through regional cooperation, the formation of a common market, or by custom unions. These can be brought about only through governmental arrangements. The removal of import quotas and protective tariffs in the developed countries will undoubtedly provide a wider market for manufactured goods. The government must, therefore, be prepared to render any service or assistance necessary to strengthen trading relationships with the developed countries. When a larger market is assured, the rate of industrial growth will be accelerated through export expansion.

It should be noted that giving high priority through incentives and tax concessions to pioneer industries, without giving sufficient attention to and emphasis on trade promotion, may not only cripple industrial development, but may also retard export expansion. It appears that incentives and high protective tariffs will make it difficult to reorient the industries towards participation in export activities in the later stages of development. It is therefore necessary to review the present industrial policy.

An Adjustable and Reflexible Policy

The policy of industrialization and export promotion is not an exclusive one and it should be recognized that at the present time, almost all the developing countries of this region have already been engaged in similar industrial programmes. As a result, even if goods manufactured in Singapore have a low cost advantage, it will still be difficult to have them exported to these high tariff countries, especially when similar types of goods have been available or can now be produced domestically in the other countries of this area. Therefore, to enable Singapore to reduce competition successfully, it should produce more sophisticated and technically advanced goods which are not currently being produced by the regional countries. To this end, it is necessary to adopt a more flexible industrial policy, one which will permit Singapore to adjust the process and the pattern of production as circumstances dictate.

APPENDIX - TABLE 1

GROSS NATIONAL PRODUCT*

($ million)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Private consumption Expenditure	1822	1692	1721	1822	2018	2068	2302	2290	2444	2839	2883	3057
Gov't consumption Expenditure	199	214	220	213	257	292	328	266	316	407	476	548
Gross Domestic Fixed Capital Formation	247	249	151	142	235	262	327	421	476	473	518	736
Gross Export of Goods & Services	3924	3581	3809	3950	3808	3928	4059	3448	3799	4249	4387	4831
Gross Import of Goods & Services	4126	3796	3974	4147	4057	4104	4359	3541	3900	4201	4575	4526
Net factor income from abroad	-30	-30	-30	-48	-30	-23	-47	-46	-29	-41	-50	-48
G.N.P.(at market price)	1836	1910	1897	1932	2231	2423	2625	2811	3086	3522	3650	3872

* The estimate of G.N.P. is based on various sources. Figures for private and government consumption and gross domestic fixed capital formation are provided by the U.N. Yearbook of National Account Statistics, 1967 & 1968. Figures for gross exports and imports of goods and services are taken from the IMF Balance of Payment Yearbook, 1968,1969 and from Singapore Yearbook of Statistics. No reliable data on net factor transfer payments are available. The figures shown in the Table are estimated from information given by the IMF Balance of Payment Yearbook and Singapore Yearbook of Statistics. The estimate of G.N.P. excludes changes of inventory stock and is therefore subject to a wide margin of error.

CHART 1

INDEX OF PRICE OF NATURAL RUBBER

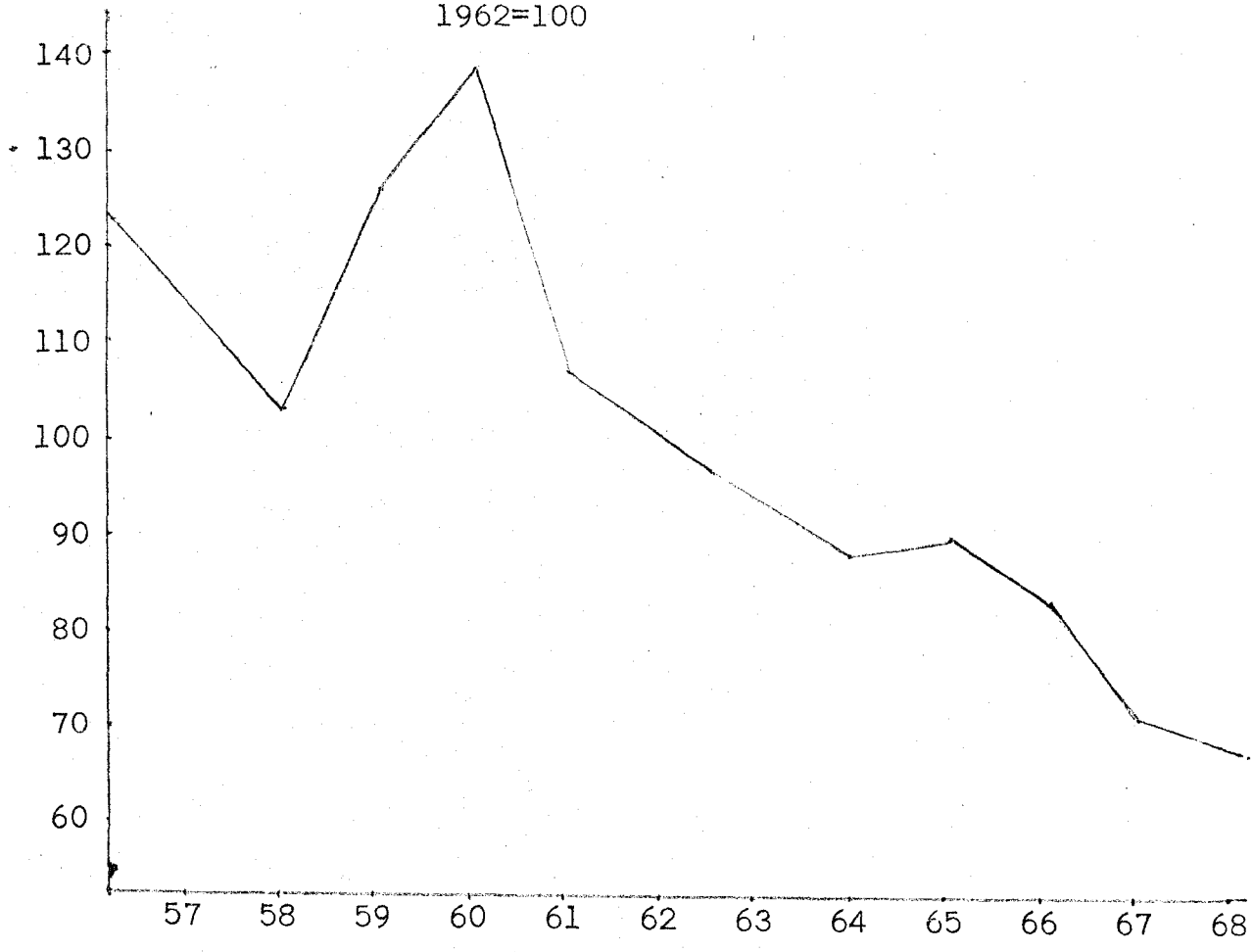

CHART 2

IMPORTS OF RUBBER AND PETROLEUM PRODUCTS

1962=100

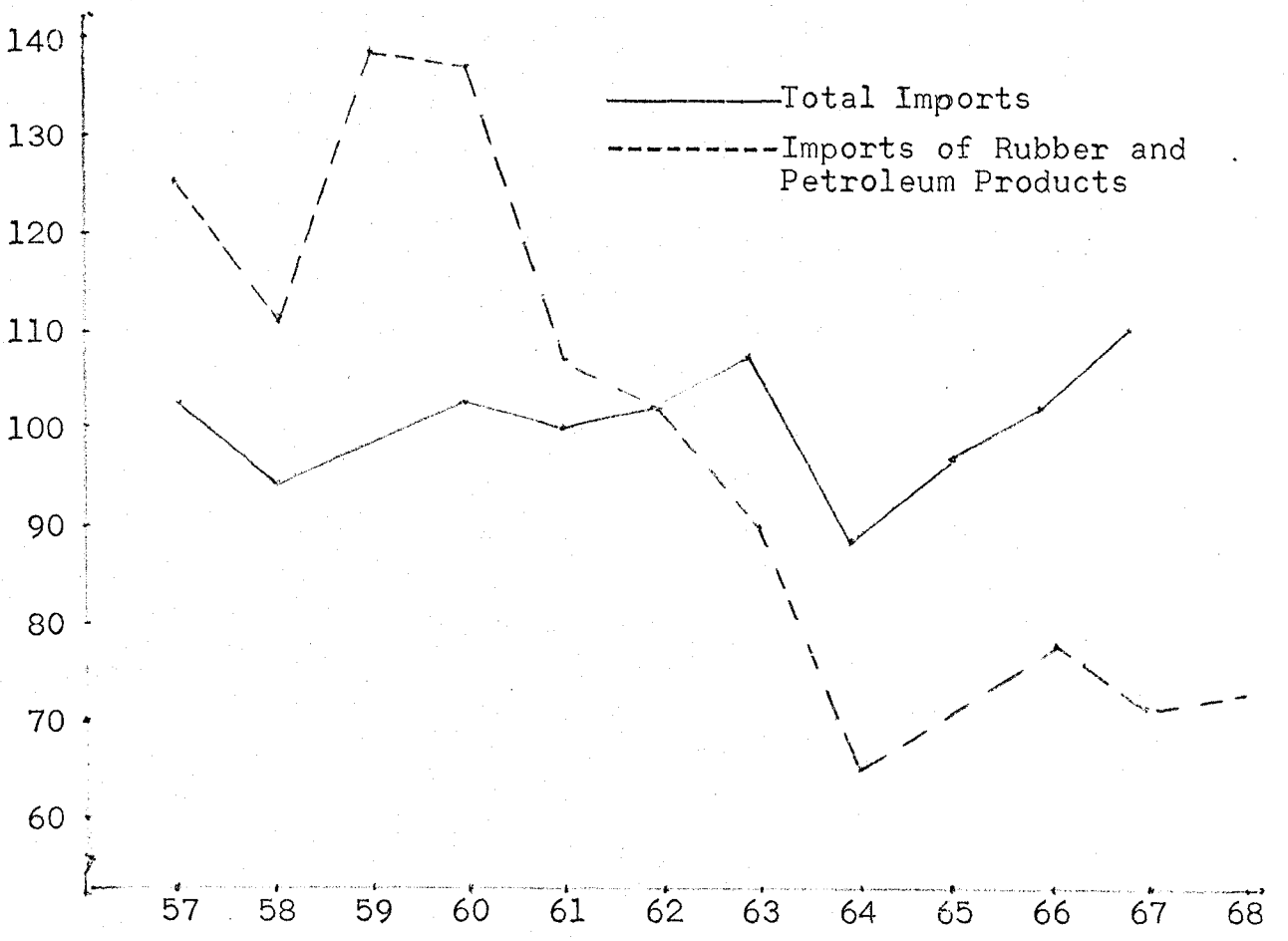

CHART 3

EXPORTS OF RUBBER AND PETROLEUM PRODUCTS

1962=100

BIBLIOGRAPHY

GENERAL

Cairncross, A.K., Factors in Economic Development. London: George Allen and Unwin Ltd., 1964.

Chenery, Hollis R., "Pattern of Industrial Growth", American Economic Review, 1960.

Demas, W.G., The Economics of Development in Small Countries. Montreal: McGill University Press, 1965.

Emery, Robert F., "The Relation of Export and Economic Growth" Kyklos, Vol.XX, FASC 2, 1967.

Hirschman, A.O., National Power and the Structure of Foreign Trade. Berkeley: University of California Press, 1945.

_____ The Strategy of Economic Development. New Haven: Yale University Press, 1958.

Johnson, H.G., International Trade and Economic Growth. London: George Allen and Unwin Ltd., 1958.

_____ Money, Trade and Economic Growth. London: George Allen and Unwin Ltd., 1962.

Kindleberger, C.P., Foreign Trade and the National Economy. New Haven: Yale University Press, 1966.

Kurihara, K.K., National Income and Economic Growth. London: George Allen and Unwin Ltd., 1961.

Kuznets, S., Economic Growth and Structure. New York: W.W. Norton and Company Inc., 1965.

Lloyd, Peter J., International Trade Problems of Small Nations. Durham: Duke University Press, 1968.

Michaely, Michael, Concentration in International Trade. North-Holland Publishing Company, 1962

Myint, H., The Economics of the Developing Countries. London: 1964.

Nurkse, Ragnar, Patterns of Trade and Development. Stockholm: 1959.

Prebisch, R., "The Role of Commercial Policies in Underdeveloped Countries", American Economic Review, May, 1959.

Robinson, A. (ed) The Economic Consequence of the Size of Nations. New York: 1963.

Weckstein, R.S. (ed) Expansion of World Trade and the Growth of National Economies. New York: 1968.

BOOKS AND ARTICLES ABOUT SINGAPORE

Blake, Donald J., "Pattern of Singapore's Trade", The Malayan Economic Review, April, 1968.

Hughes, Helen and You, Poh Seng (ed) Foreign Investment and Industrialization in Singapore. Australian University Press, 1969.

Lim, Tay Boh, The Development of Singapore's Economy. Singapore: Eastern University Press, 1960.

Ma R., and You, Poh Seng, "The Population Growth of Singapore" The Malayan Economic Review, Oct. 1959.

Silcock, T.H., Readings in Malayan Economics. Singapore: Eastern University Press, 1960.

Silcock, T.H. and Fisk, G.S. (ed) The Political Economy of Independent Malaya. Singapore: Eastern University Press, 1963.

The International Bank for Reconstruction and Development, The Economic Development of Malaya. Baltimore: The Johns Hopkins Press, 1955.

_____ Report on the Economic Aspects of Malaysia. Singapore: The Government Printing Office, 1963.

You Poh Seng, "The Population Growth of Singapore,"Malayan Economic Review, Oct. 1959.

SINGAPORE GOVERNMENT PUBLICATIONS

Economic Development Board Annual Report, Economic Development Board, Singapore.

External Trade Statistics, Department of Statistics, Singapore.

Monthly Digest of Statistics, Department of Statistics, Singapore.

Report on the Census of Industrial Production, Department of Statistics, Singapore.

Development Plan, 1961-64, Ministry of Defence, Singapore.

Singapore Yearbook, Government Printing Office.

Yearbook of Statistics, Singapore, Department of Statistics.

Singapore Sample Household Survey, 1966, Ministry of National Development and Economic Research Centre, University of Singapore, 1966.

OTHER

IMF. IMF Balance of Payments Yearbook.

U.N. Yearbook of International Trade Statistics.

U.N. Yearbook of National Accounts.

BIOGRAPHY

BORN:	Foo Ju-Kuai September 22, 1938 Port Dickson, Malayasia
EDUCATION:	Primary and Secondary Education in Malaya and Singapore 1964 B.Comm.(Economics) Nanyang University, Singapore
PROFESSION:	1966 Joined Political Study Centre, Singapore 1967 Posted to National Youth Leadership Training Institute, Singapore.